MINOLTA DYNAX 500si (2092–100)
MINOLTA DYNAX 500si DATE (2092–200)
MINOLTA MAXXUM 400si (2092–300)
MINOLTA MAXXUM 400si DATE (2092–400)
MINOLTA α 303si (2092–600)

CAMERA
Type : 35mm SLR with built–in flash and control of autofocus (AF) and autoexposure (AE)

LENS MOUNT : Minolta A type bayonet mount

SHUTTER
Type : Electronically controlled, vertical traverse, focal plane type
Range : 1/2000 to 30 sec., bulb
X–sync. speed : 1/90 sec. or slower
Self–timer : Electronic with 10 sec. delay; cancelable (indicated by LED lamp)

FLASH(Built–in flash)
: Raised and lowered manually
Guide number : 12
coverage : to 28mm focal length lens
Recycling time : Approx. 2 sec. (Based on Minolta's standard test method)
P mode flash : When built–in flash is up, fires automatically when needed, manual fill–flash or flash cancel selectable
A, S, M mode flash : When built–in flash is up, flash always fires
Other features : Control of Pre–flash for red–eye reduction, and wireless–flash available

FILM TRANSPORT
Threading : Auto–threading; auto–advance to first frame
Film advance : Single–frame advance or continuous advance by 1 frame per second
Film rewind : Automatic rewind or manual start of rewind
Rewind time : Approx. 16 sec. (using 24–exposure film)
Battery performance (Based on Minolta's standard test method)
: Approx. 50 rolls using 24–exposure film
Approx. 20 rolls using 24–exposure film with flash ON 50% of exposure
Approx. 13 rolls using 24–exposure film with flash ON 100% of exposure

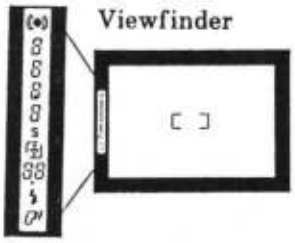
VIEWFINDER

Type	: Eye-level fixed roof mirror
Focusing screen	: Acute matte screen
Field of view	: 90%
Magnification	: 0.75 (with 50mm lens at infinity)
Diopter	: −1 diopter (adjustment available using eyepiece corrector)
Eyepiece cup	: Soft type
Indication for panorama (−600 only)	: Light-shielding panorama frame

DISPLAYS

Body data panel

Viewfinder



EXPOSURE CONTROL SYSTEM

Metering	: TTL type 8-zone honeycomb pattern metering (adjustment available for panorama format); SPC1 for ambient light, SPC2 for TTL flash metering
Metering range	: EV1 to 20 (with ISO 100, F1.4 lens)
Exposure mode selection	: P, A, S, M
Subject program selection	: Portrait, Landscape, Close-Up, Sports Action, Night-Portrait
Manual SS & aperture settings	: Shutter speed: 1.0-stop increments, Aperture: 1/2-stop increments
Film-speed setting	: Automatic setting for DX-coded films ISO25 to 5000 (1/3-stop increments) Recommended range with flash: ISO25 to 1000 ISO 100 set for non DX-coded film
Exposure compensation	: ±3EV (1/2-stop increments)
AE lock	: AE locks when focus is locked

AF system

Type	: Minolta's TTL phase-detection type
AF sensor	: One CCD sensor
AF sensitivity range	: EV −1 to 18 (with ISO 100 in ambient light)
Focus mode	: Autofocus or manual focus switchable
Built-in AF illuminator	: Built-in flash fires automatically when raised in low-light/low-contrast to aid focusing; cancelable
Focus control	: Predictive focus control for moving subjects Automatic AF mode changeover between continuous and one-shot

OTHERS

Panorama(−600 only)	: Selected by Panorama Switch with panorama frame in viewfinder to shield light; data imprinting position changes for panorama format with Panorama DATE model
Autozoom (with xi-series lens)	: Auto-compact

Power

Battery	: One 6V 2CR5 lithium battery
Battery for DATE	: One CR2025 lithium battery

Dimensions

−100, −300	: 147.5(W)×92.5(H)×66.5(D)mm
−200, −400	: 147.5(W)×92.5(H)×67.5(D)mm
−600	: 148.5(W)×92.5(H)×67.5(D)mm

Weight

−100, −300	: 380g (without battery)
−200, −400	: 385g (without 2CR5, including CR2025)
−600	: 395g (without 2CR5, including CR2025)

Mechanism Description

Mechanism and electric circuit of 2092 are almost the same as those of 2085.
Refer to 2085 Mechanism Description for details.

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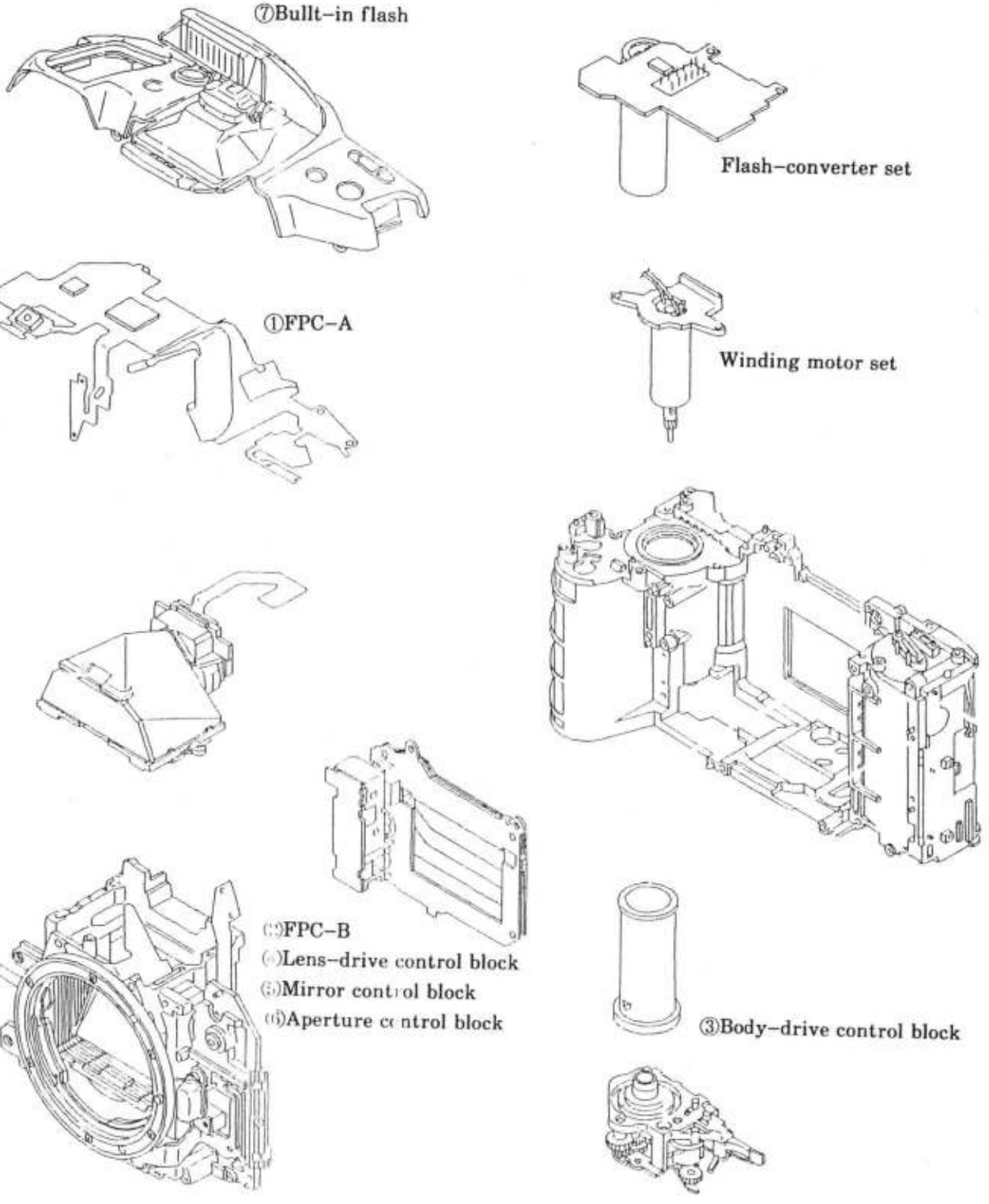
1. Mechanical block description

(1) Block diagram



(2) Function of each block

① FPC-A (IC1, 4, 5, 6)
- Controls the whole sequence and calculates each set of data.
- Supplies power to M1 (Body-drive motor), M2 (AF-motor).
- Controls each set of serial data (lens, flash, data back).

② FPC-B [IC3]
- Detects focus point necessary for AF operaton.

③ Body-drive control block
- Consists of one-rotation cam block interlocked with M1 rotation, advance and rewind-gears, transmitting gears, and mirror-charge-lever.
- Controls mechanical shutter-release, stopping down the lens, mirror and shutter charge, film advance/rewind.

④ Lens-drive control block
- Consists of M2, AF coupler, AF encoder, and AF drive gears.
- Drives lenses through AF coupler monitoring M2 rotation with AF encoder.

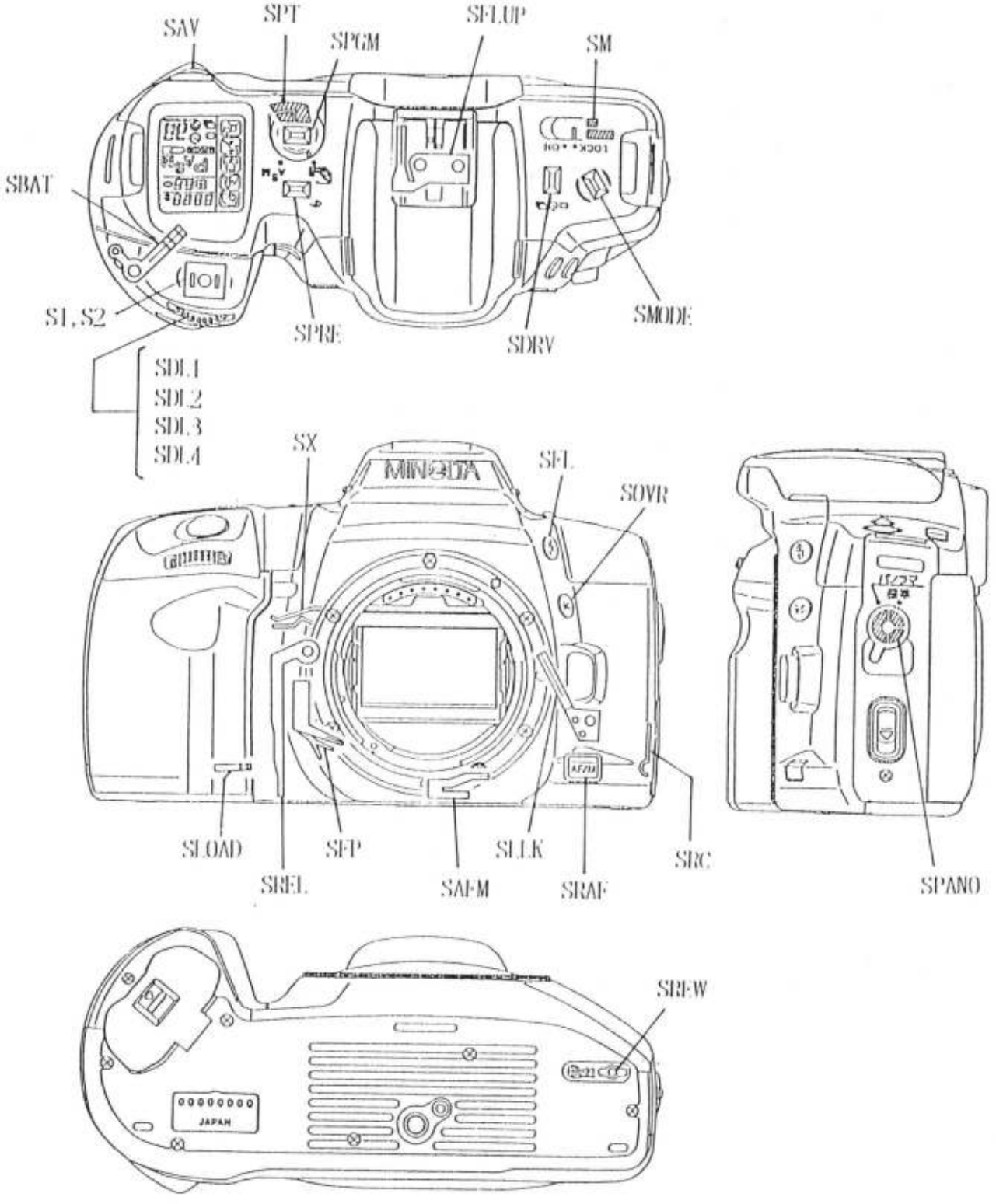
⑤ Mirror control block
- Consists of mirror-charge-lever, link-lever, etc.
- Drives up and down the mirror.
- Charges shutter with shutter-charge-lever interlocked with charge-lever.

⑥ Aperture-control block
- Consists of SL2, aperture-encoder PCB, aperture-ring interlock gears, shutter-charge block, and mirror-charge block.
- Monitors moving-amount of aperture-ring on aperture-enecoder PCB at stop-down operation, and determines aperture by separating SL2.

⑦ Built-in flash
- In P mode, and if built-in flash is raised, it fires automatically when necessary.
- In S, A, M mode, and if built-in flash is raised, it always fires.

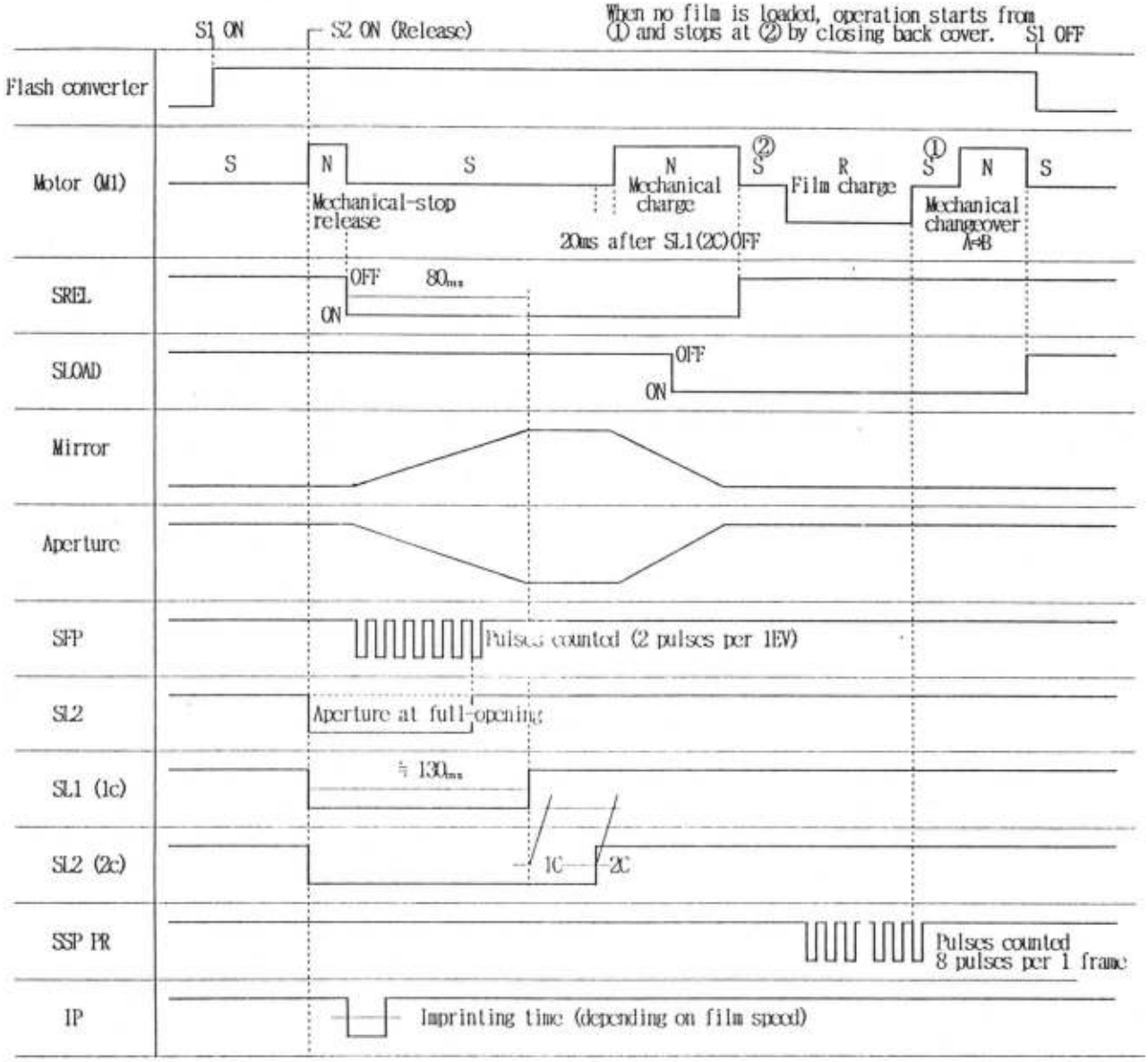
2. Body control circuit

(1) Switch



(2) Timing chart

[Sutter release & film advance]



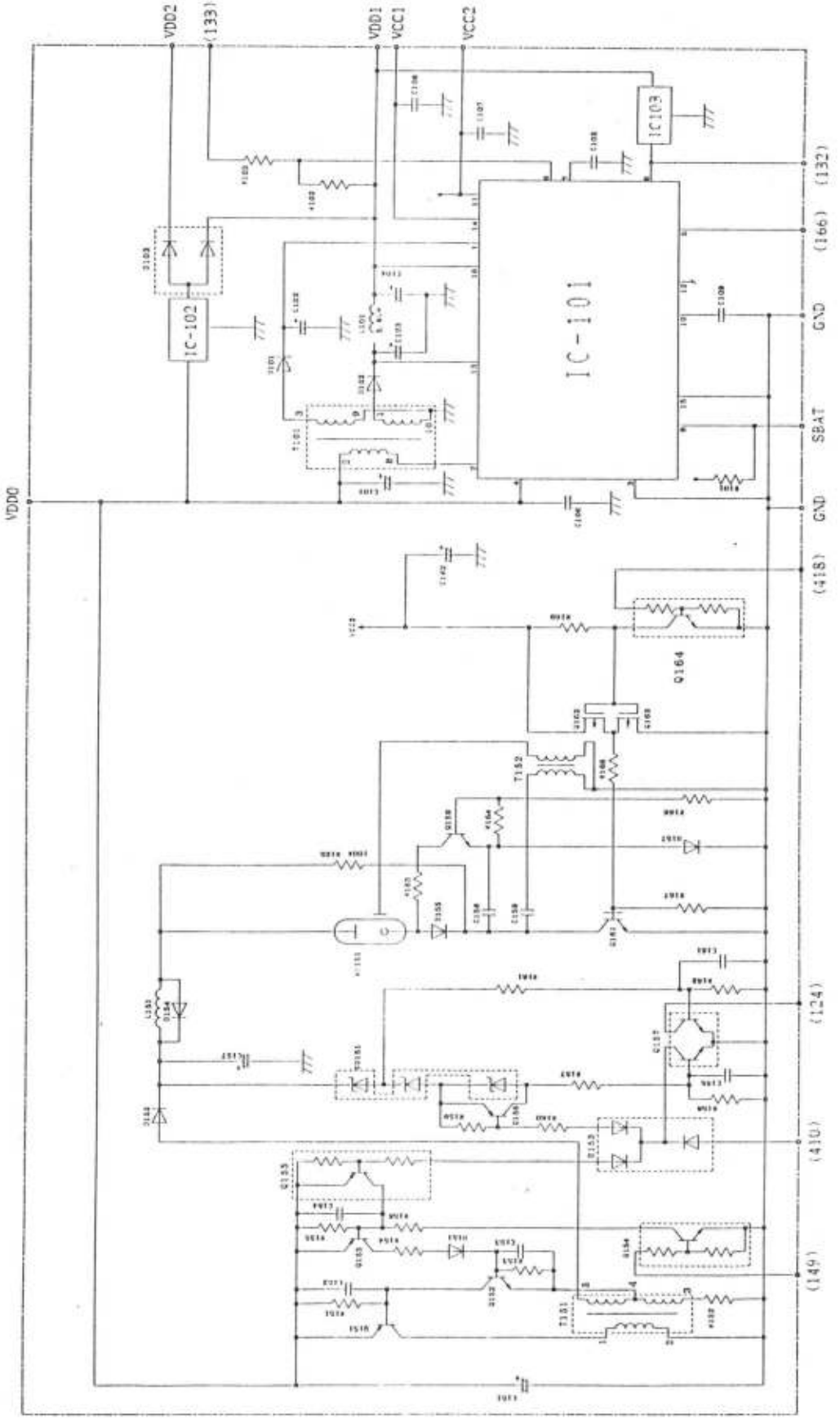
※ N : Normal drive R : Reverse drive S : Drive stop

(3) Input/output of motor control signal (IC-4)

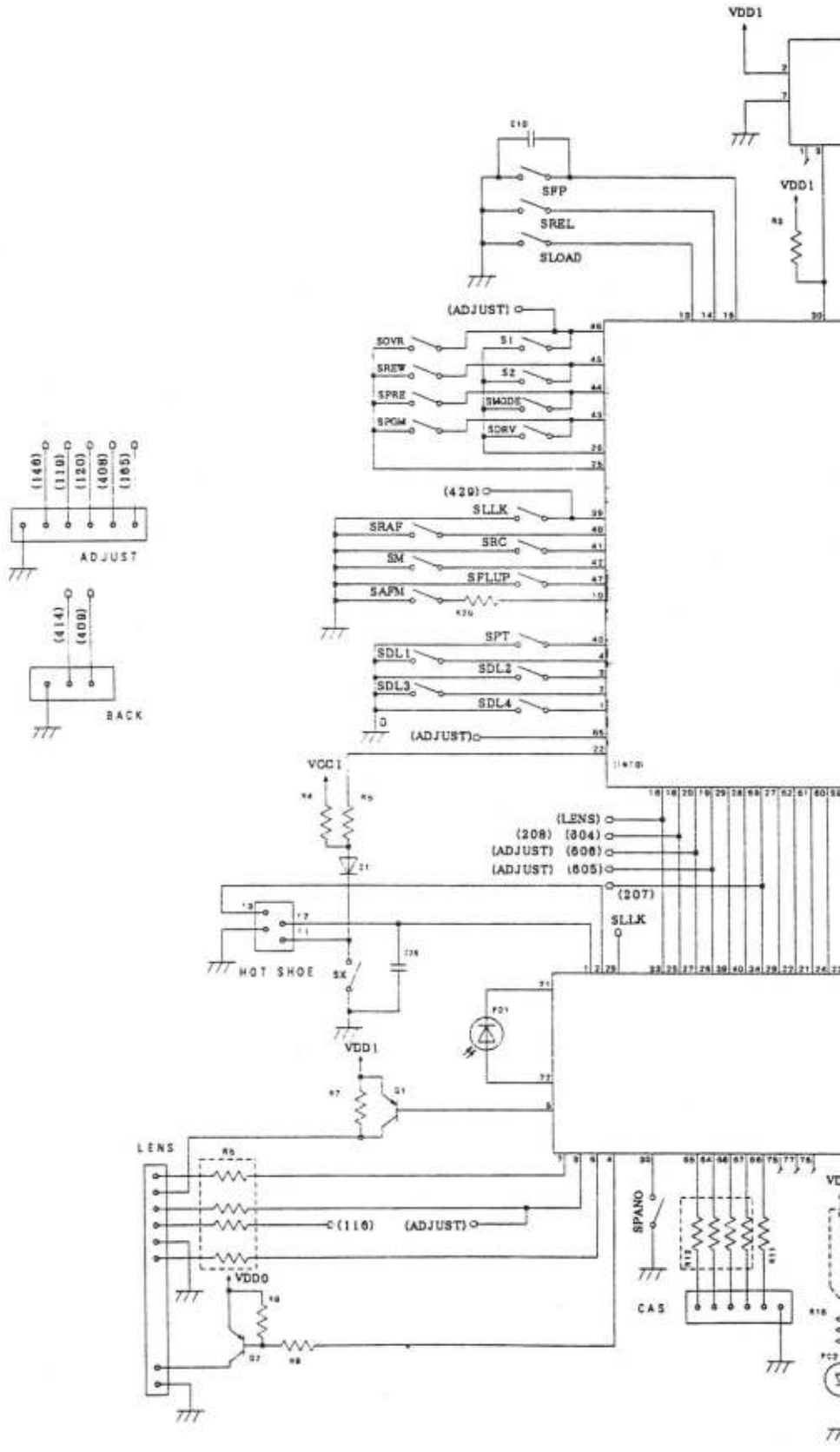
Motor Operation	Input				Output					
	22	21	24	23	48	47	61	60	46	57
M1, M2 OFF	H	H	H	H	H	H	L	L	H	L
M1 Normal drive	L	H	H	H	L	H	L	H	H	L
M1 Reverse drive	H	L	H	H	H	L	H	L	H	L
M2 Normal drive	L	H	H	L	H	H	L	H	L	L
M2 Reverse drive	H	L	H	L	H	L	L	L	H	H
M1, M2 Brake	L	L	L	L	H	H	H	H	H	H

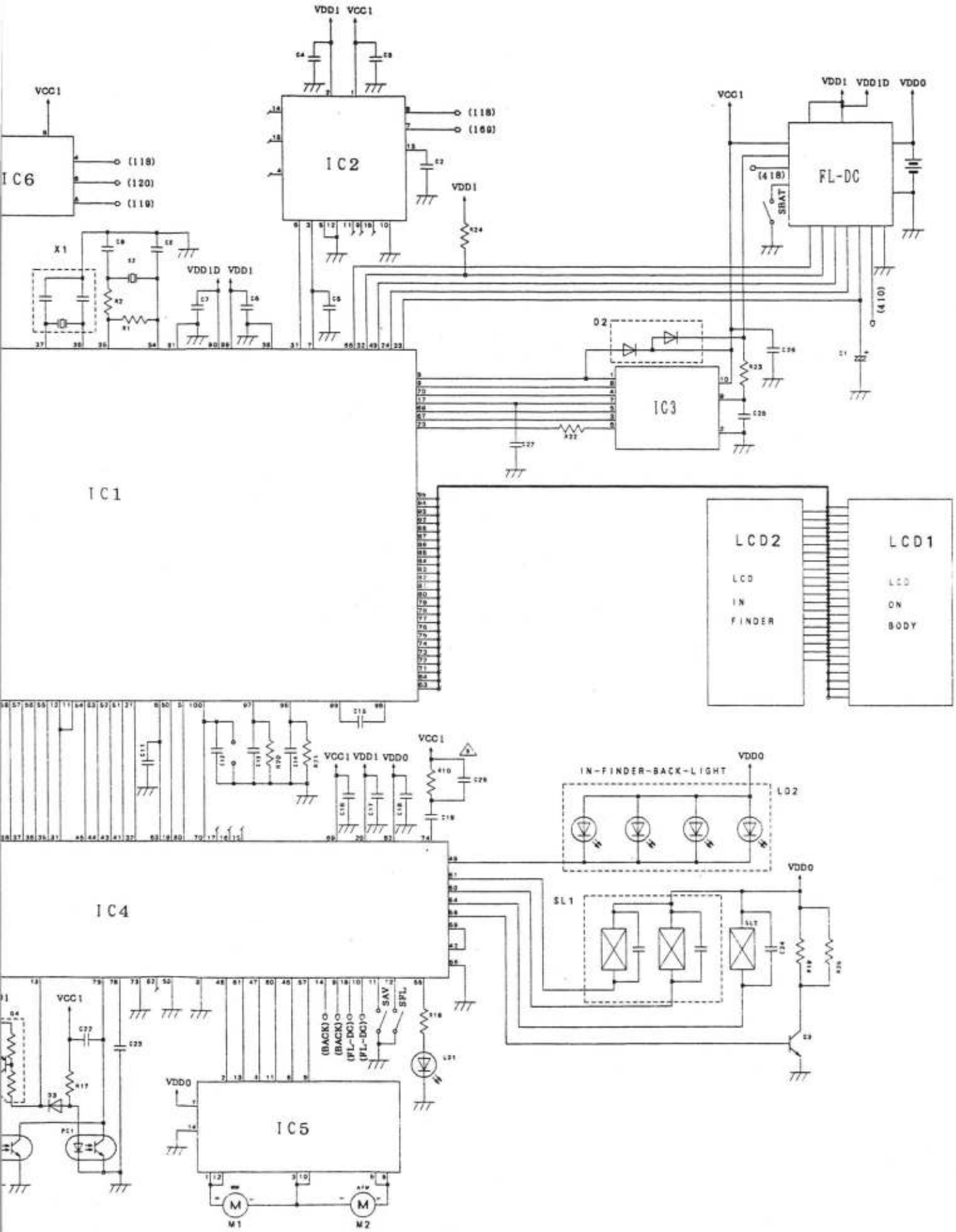
(4) 回路図 ／ Circuit diagram

①フラッシュコンバーター／ Built-in flash/DC-DC converter circuit



②全体回路図／ Overall circuit




VDD1
VCC1
IC2
IC6
(118)
(120)
(119)
(118)
(169)
VCC1
VDD1
VDD1D
VDD0
FL-DC
(418)
SBAT
(410)
X1
VDD1D
VDD1
D2
IC3
IC1
LCD2
LCD
IN
FINDER
LCD1
LCD
ON
BODY
VCC1
VDD1
VDD0
IN-FINDER-BACK-LIGHT
VDD0
LD2
IC4
SL1
VDD0
VCC1
SAV
SFL
(BACK)
(BACK)
(FL-DC)
(FL-DC)
VDD0
IC5
M1
M2

No. 2092-002 Feb., 1994

SERVICE MANUAL SUPPLEMENTARY INFORMATION

MODEL: DYNAX 500si / MAXXUM 400si / α 303si

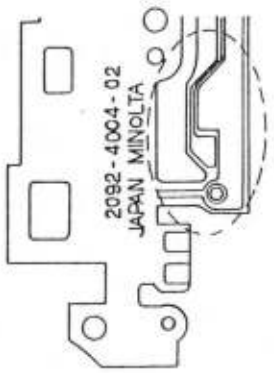
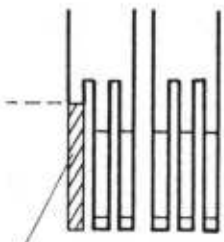
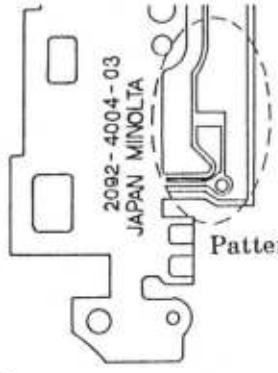
CODE No.: 2092 Series

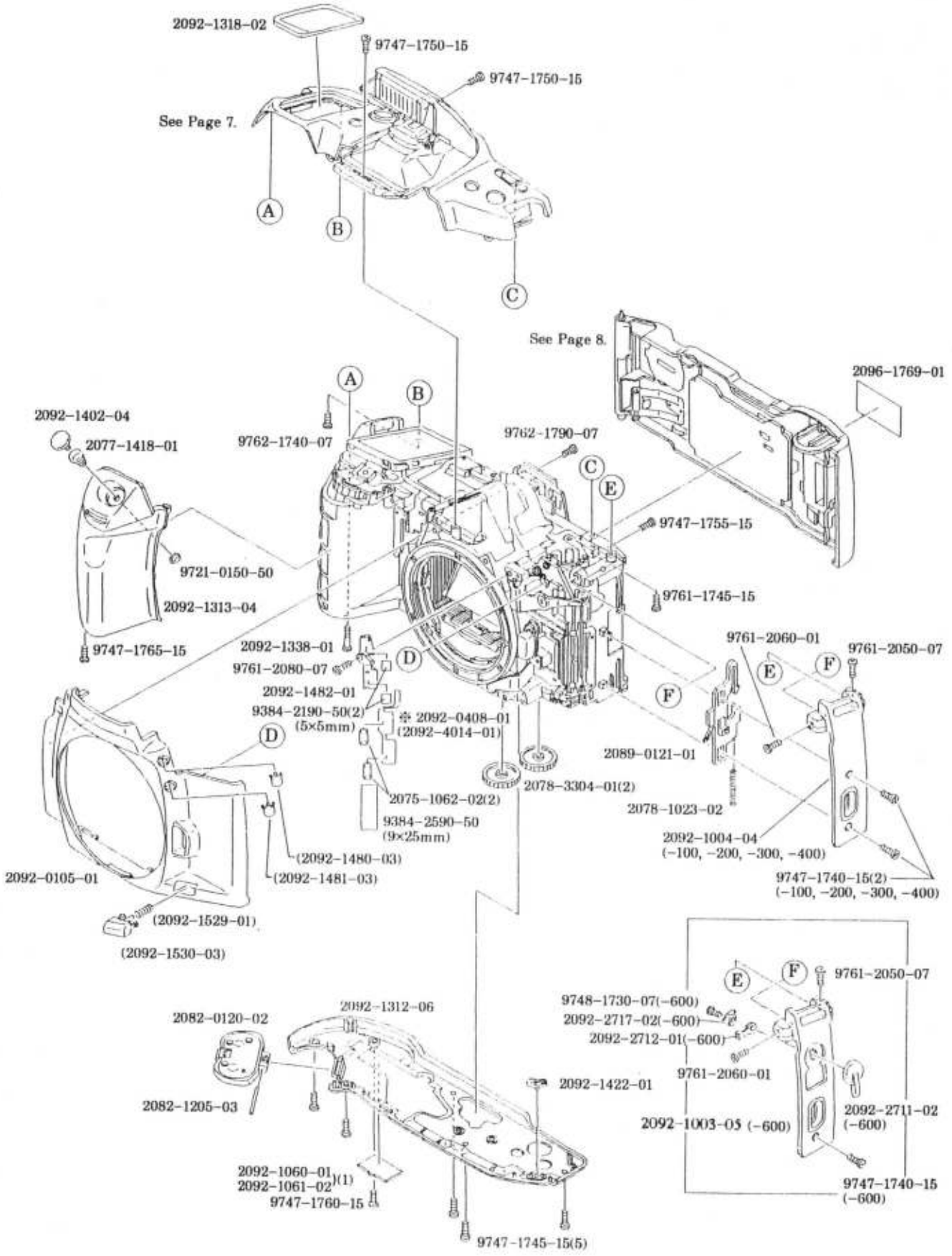
■Repair information 2

■Accompanied with the pattern modification of FPC-D (2092-4004), treatment of Back-Cover Release Unit (2089-0121) is changed. Follow the instruction below for repair.

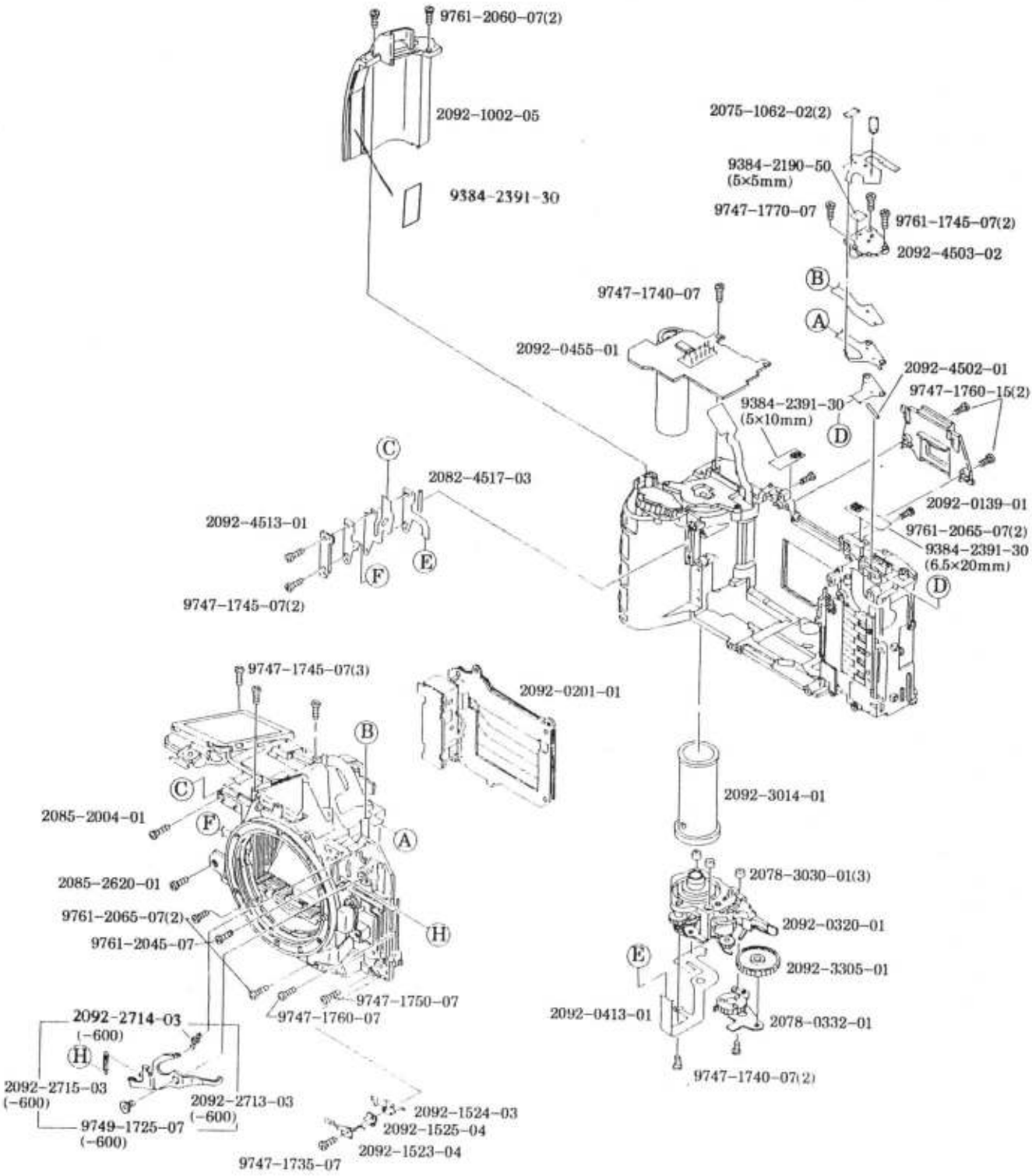
■When replacing FPC-D with replacement part, replace Back-Cover Release Unit as a set.
Cutting a pattern of Back-Cover Release Unit is not necessary for this replacement FPC-D. (Refer to page 14 of Repair Guide.)

■Replace FPC-D and Back Cover Release Unit as a set.

FPC-D (2092-4004)	Back Cover Release Unit (2089-0121)
 Previous ※Not available as replacement part	 The pattern is cut.
 Pattern changed New ※Available as replacement part	Do not cut the pattern.


2092-1318-02
9747-1750-15
9747-1750-15
See Page 7.
A
B
C
See Page 8.
2096-1769-01
2092-1402-04
2077-1418-01
9762-1740-07
9762-1790-07
9747-1755-15
9721-0150-50
2092-1313-04
9747-1765-15
9761-1745-15
2092-1338-01
9761-2080-07
9761-2060-01
9761-2050-07
2092-1482-01
9384-2190-50(2)
(5×5mm)
2092-0408-01
(2092-4014-01)
2089-0121-01
2078-3304-01(2)
2075-1062-02(2)
2078-1023-02
9384-2590-50
(9×25mm)
2092-1004-04
(-100, -200, -300, -400)
9747-1740-15(2)
(-100, -200, -300, -400)
2092-0105-01
(2092-1480-03)
(2092-1481-03)
(2092-1529-01)
(2092-1530-03)
2092-1312-06
2082-0120-02
2082-1205-03
2092-1422-01
9748-1730-07(-600)
2092-2717-02(-600)
2092-2712-01(-600)
9761-2060-01
2092-2711-02
(-600)
2092-1003-05 (-600)
9747-1740-15
(-600)
2092-1060-01
2092-1061-02 }(1)
9747-1760-15
9747-1745-15(5)

PART NUMBER	DESCRIPTION	QTY
2092-0105-01	FRONT COVER UNIT	1
2092-1480-03	FLASH-CONTROL BUTTON	1
2092-1481-03	EXPOSURE-COMPENSATION BUTTON	1
2092-1529-01	FOCUS-MODE BUTTON SP	1
2092-1530-03	FOCUS-MODE BUTTON	1
2082-0120-02	BATTERY COVER SET	1
2089-0121-01	BACK-COVER RELEASE UNIT	1
2092-1003-05	BACK-COVER RELEASE COVER (-600)	1
2092-1004-04	BACK-COVER RELEASE COVER (-100, -200, -300, -400)	1
2078-1023-02	LOCK SP	1
2092-1060-01	SERIAL NUMBER PLATE	1
2092-1061-02	SERIAL NUMBER PLATE (MALAYSIA)	1
2075-1062-02	OVER RIDE CONTACT	2
2082-1205-03	BATTERY COVER HINGE AXIS	1
2092-1312-06	BOTTOM COVER	1
2092-1313-04	GRIP COVER	1
2092-1318-02	LCD WINDOW	1
2092-1338-01	SCREW	1
2092-1402-04	SHUTTER-RELEASE BUTTON	1
2077-1418-01	RELEASE BUTTON SPRING	1
2092-1422-01	REWIND BUTTON	1
2092-1482-01	EXPOSURE-COMPENSATION BUTTON BASE	1
2096-1769-01	PANORAMA STICKER (-600)	1
2092-2711-02	PANORAMA SWITCH (-600)	1
2092-2712-01	PANORAMA OPERATION LEVER-A (-600)	1
2092-2717-02	SPANO. CONTACT (-600)	1
2078-3304-01	REWIND GEAR-B	2
9384-2190-50	DOUBLE-FACED TAPE (PER ROLL)	2
9384-2590-50	MENDING TAPE (1R/50M)	1
9721-0150-50	E-RING	1
9747-1740-15	SCREW (-100, -200, -300, -400)	2
9747-1740-15	SCREW (-600)	2
9747-1745-15	SCREW	5
9747-1750-15	SCREW	2
9747-1755-15	SCREW	1
9747-1760-15	SCREW	1
9747-1765-15	SCREW	1
9748-1730-07	SCREW	1
9761-1745-15	SCREW	1
9761-2050-07	SCREW	1
9761-2060-01	SCREW	1
9761-2080-07	SCREW	1
9762-1740-07	SCREW	1
9762-1790-07	SCREW	1
2092-0408-01	SEE PAGE 4	
2092-4014-01	FPC-N	1


9761-2060-07(2)
2092-1002-05
9384-2391-30
2075-1062-02(2)
9384-2190-50
(5×5mm)
9747-1770-07
9761-1745-07(2)
2092-4503-02
B
A
9747-1740-07
2092-0455-01
2092-4502-01
9747-1760-15(2)
9384-2391-30
(5×10mm)
D
C
2082-4517-03
2092-4513-01
F
E
9747-1745-07(2)
2092-0139-01
9761-2065-07(2)
9384-2391-30
(6.5×20mm)
D
9747-1745-07(3)
2092-0201-01
B
C
F
A
2085-2004-01
2092-3014-01
2085-2620-01
2078-3030-01(3)
9761-2065-07(2)
H
2092-0320-01
9761-2045-07
E
2092-3305-01
9747-1750-07
9747-1760-07
2092-0413-01
2078-0332-01
2092-2714-03
(-600)
H
9747-1740-07(2)
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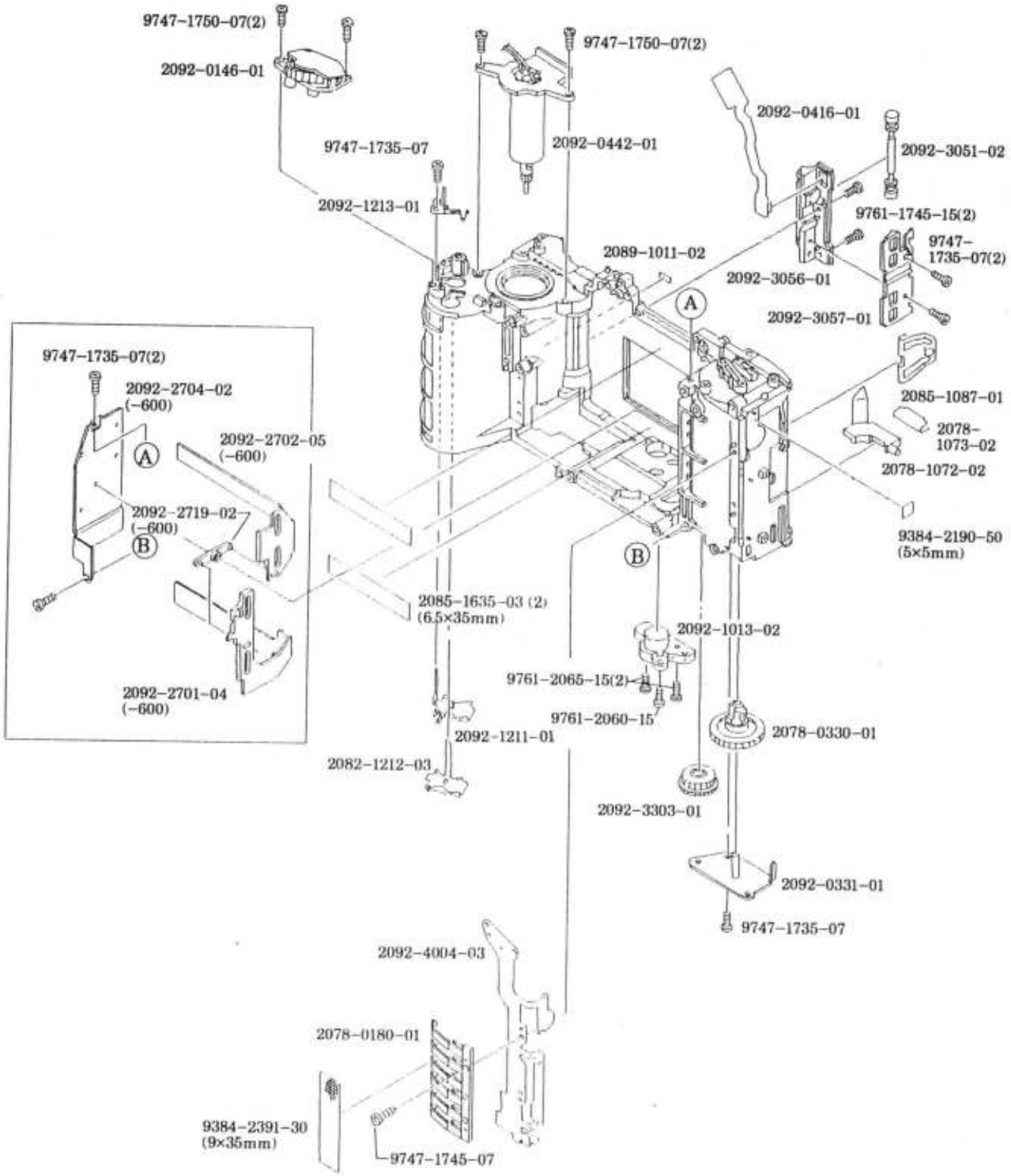
(-600)
2092-2713-03
(-600)
9749-1725-07
(-600)
2092-1524-03
2092-1525-04
2092-1523-04
9747-1735-07

PART NUMBER	DESCRIPTION	QTY
2092-0139-01	EYEPIECE FRAME UNIT	1
2092-0201-01	SHUTTER UNIT	1
2092-0320-01	WINDING BASE PLATE UNIT	1
2078-0332-01	REWIND BASE PLATE SET	1
2092-0413-01	FPC-M SET	1
2092-0455-01	FLASH CONVERTER PCB SET	1
2092-1002-05	STRAP EYELET (R)	1
2075-1062-02	OVER RIDE CONTACT	2
2092-1523-04	SRAF. CONTACT-A	1
2092-1524-03	SRAF. CONTACT-B	1
2092-1525-04	SRAF. CONTACT SPACER	1
2085-2004-01	SCREW	1
2085-2620-01	SCREW	1
2092-2713-03	PANORAMA COUPLING LEVER-A (-600)	1
2092-2714-02	PANORAMA OPERATION SP-A (-600)	1
2092-2715-03	PANORAMA COUPLING SP (-600)	1
2092-3014-01	SPOOL	1
2078-3030-01	SILENT COLLAR	3
2092-3305-01	REWIND GEAR-C	1
2092-4502-01	RUBBER CONNECTOR	1
2092-4503-02	CONNECTOR BASE PLATE	1
2092-4513-01	CONNECTOR PRESSURE	1
2082-4517-03	A-F-M RUBBER CONNECTOR	1
9384-2190-50	DOUBLE-FACED TAPE (PER ROLL)	1
9384-2391-30	ACETATE TAPE (PER ROLL)	2
9747-1735-07	SCREW	1
9747-1740-07	SCREW	3
9747-1745-07	SCREW	5
9747-1750-07	SCREW	1
9747-1760-07	SCREW	1
9747-1760-15	SCREW	2
9747-1770-07	SCREW	1
9749-1725-07	SCREW	1
9761-1745-07	SCREW	2
9761-2045-07	SCREW	1
9761-2060-07	SCREW	2
9761-2065-07	SCREW	4
9790-4165-40	WASHER (DISCONTINUED)	1
9384-2391-30	ACETATE TAPE (PER ROLL)	1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2092-0416-01
2092-3051-02
9747-1735-07
2092-1213-01
9761-1745-15(2)
9747-1735-07(2)
2089-1011-02
2092-3056-01
2092-3057-01
A
9747-1735-07(2)
2092-2704-02
(-600)
2085-1087-01
2078-1073-02
2078-1072-02
2092-2702-05
(-600)
A
2092-2719-02
(-600)
B
B
9384-2190-50
(5×5mm)
2085-1635-03 (2)
(6.5×35mm)
2092-1013-02
9761-2065-15(2)
9761-2060-15
2078-0330-01
2092-1211-01
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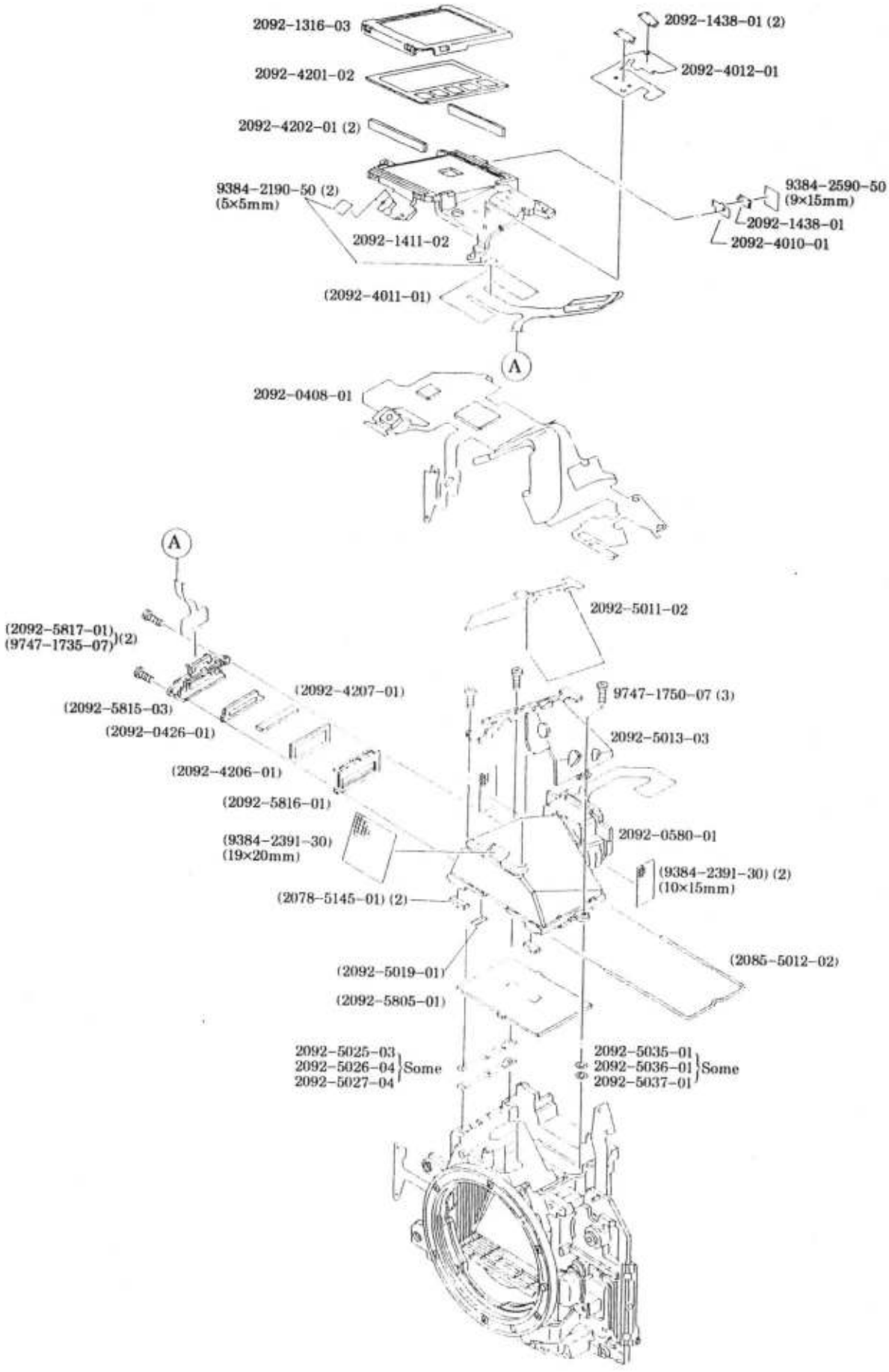
2092-3303-01
2092-2701-04
(-600)
2092-0331-01
9747-1735-07
2092-4004-03
2078-0180-01
9384-2391-30
(9×35mm)
9747-1745-07

PART NUMBER	DESCRIPTION	QTY
2092-0146-01	DIAL UNIT	1
2078-0180-01	DX CONTACTS SET	1
2078-0330-01	REWIND FORK SET	1
2092-0331-01	REWIND FORK BASE PLATE UNIT	1
2092-0416-01	FPC-P SET	1
2092-0442-01	WINDING MOTOR UNIT	1
2089-1011-02	LOADING INDEX	1
2092-1013-02	TRIPOD BASE PLATE	1
2078-1072-02	FILM CARTRIDGE RECEIVER	1
2078-1073-02	CARTRIDGE RECEIVER SP	1
2085-1087-01	SIDE SP	1
2092-1211-01	BATTERY CONTACT-A (-)	1
2082-1212-03	BATTERY CONTACT-B (+)	1
2092-1213-01	BATTERY DETECT SW	1
2085-1635-03	TAPE (PER ROLL) (-600)	2
2092-2701-04	PANORAMA FRAME PLATE-A (-600)	1
2092-2702-05	PANORAMA FRAME PLATE-B (-600)	1
2092-2704-02	PANORAMA FRAME HOLDER-A (-600)	1
2092-2719-02	PANORAMA COUPLING LEVER-B (-600)	1
2092-3051-02	FILM ROLLER	1
2092-3056-01	FILM GUIDE	1
2092-3057-01	FPC-P HOLDER	1
2092-3303-01	REWIND GEAR-A	1
2092-4004-03	FPC-D	1
9384-2190-50	DOUBLE-FACED TAPE (PER ROLL)	1
9384-2391-30	ACETATE TAPE (PER ROLL)	1
9747-1735-07	SCREW	6
9747-1745-07	SCREW	1
9747-1750-07	SCREW	4
9761-1745-15	SCREW	2
9761-2060-15	SCREW	1
9761-2065-15	SCREW	2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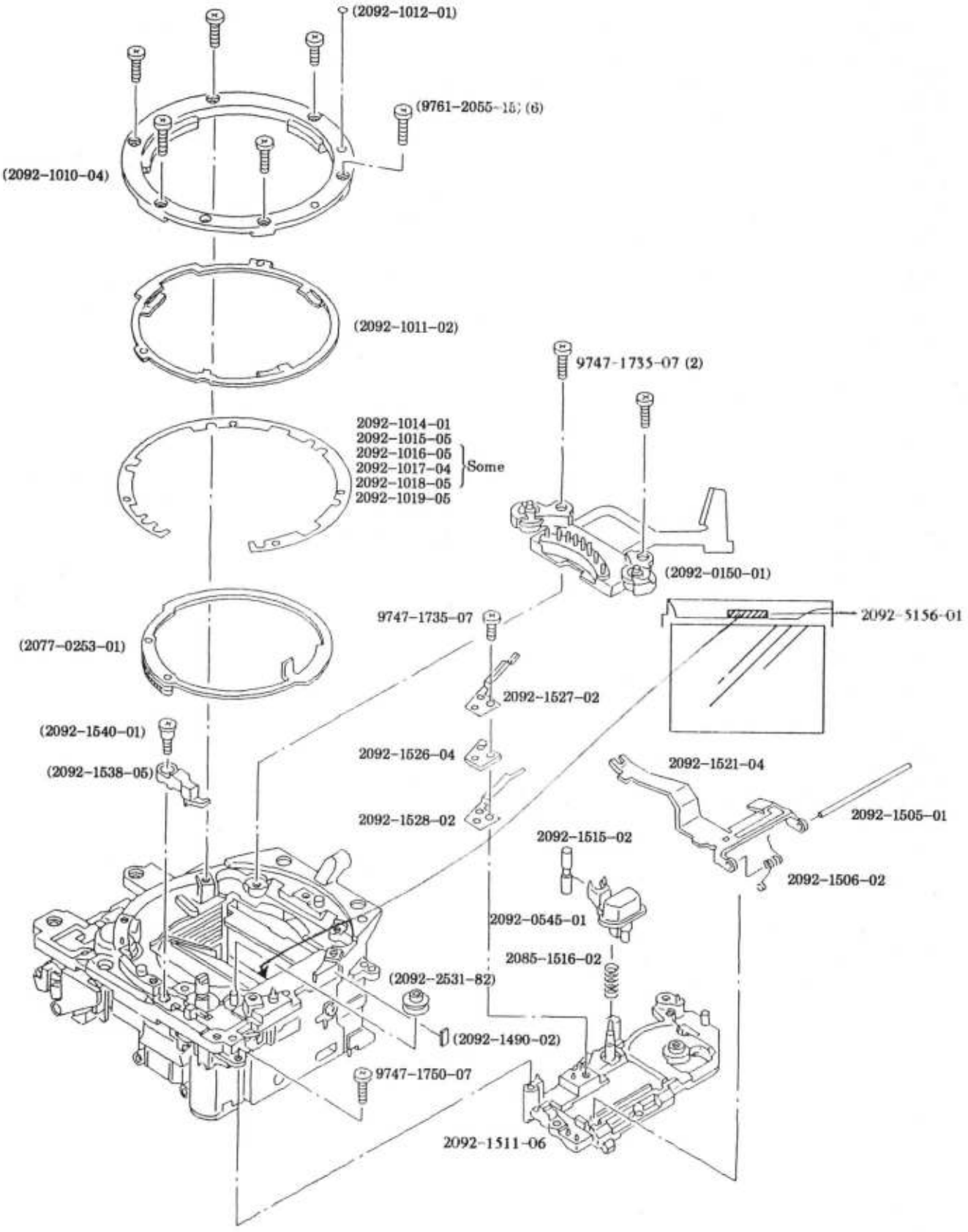
2092-4201-02
2092-4202-01 (2)
2092-1438-01 (2)
2092-4012-01
9384-2190-50 (2)
(5×5mm)
2092-1411-02
9384-2590-50
(9×15mm)
2092-1438-01
2092-4010-01
(2092-4011-01)
A
2092-0408-01
A
(2092-5817-01)
(9747-1735-07) (2)
(2092-5815-03)
(2092-0426-01)
(2092-4207-01)
(2092-4206-01)
(2092-5816-01)
(9384-2391-30)
(19×20mm)
2092-5011-02
9747-1750-07 (3)
2092-5013-03
2092-0580-01
(9384-2391-30) (2)
(10×15mm)
(2078-5145-01) (2)
(2092-5019-01)
(2092-5805-01)
(2085-5012-02)
2092-5025-03
2092-5026-04
2092-5027-04
Some
2092-5035-01
2092-5036-01
2092-5037-01
Some

PART NUMBER	DESCRIPTION	QTY
2092-0408-01	FPC-A SET	1
2092-0580-01	PENTA-PRISM UNIT	1
2092-0426-01	BACK LIGHT UNIT	1
2092-4011-01	FPC-K	1
2092-4206-01	LCD 2	1
2092-4207-01	LCD 2 CONNECTOR	1
2085-5012-02	FRESNEL LENS SP	1
2092-5019-01	PENTA-PRISM LIGHT SHIELD SHEET	1
2078-5145-01	MIRROR CUSHION	2
2092-5805-01	FOCUSING SCREEN	1
2092-5815-03	VIEWFINDER LCD HOLDER	1
2092-5816-01	LCD 2 PRESSURE	1
2092-5817-01	SCREW	2
9747-1735-07	SCREW	2
9384-2391-30	ACETATE TAPE (PER ROLL)	3
2092-1316-03	LCD 1 PRESSURE	1
2092-1411-02	SHUTTER-RELEASE BASE	1
2092-1438-01	CLICK CONTACT	3
2092-4010-01	FPC-J	1
2092-4012-01	FPC-L	1
2092-4201-02	LCD 1	1
2092-4202-01	LCD 1 CONNECTOR	2
2092-5011-02	PENTA INSULATION SHEET	1
2092-5013-03	PENTA PRESSURE	1
2092-5025-03	VB ADJUSTMENT PLATE-A (T=0.2)	SOME
2092-5026-04	VB ADJUSTMENT PLATE-B (T=0.15)	SOME
2092-5027-04	VB ADJUSTMENT PLATE-C (T=0.1)	SOME
2092-5035-01	VB ADJUSTMENT PLATE-D (T=0.2)	SOME
2092-5036-01	VB ADJUSTMENT PLATE-E (T=0.15)	SOME
2092-5037-01	VB ADJUSTMENT PLATE-F (T=0.1)	SOME
2092-5156-01	MIRROR CUSHION-A (DISCONTINUED)	2
9384-2190-50	DOUBLE-FACED TAPE (PER ROLL)	2
9384-2590-50	MENDING TAPE (1R/50M)	1
9747-1750-07	SCREW	3

5 (2092)

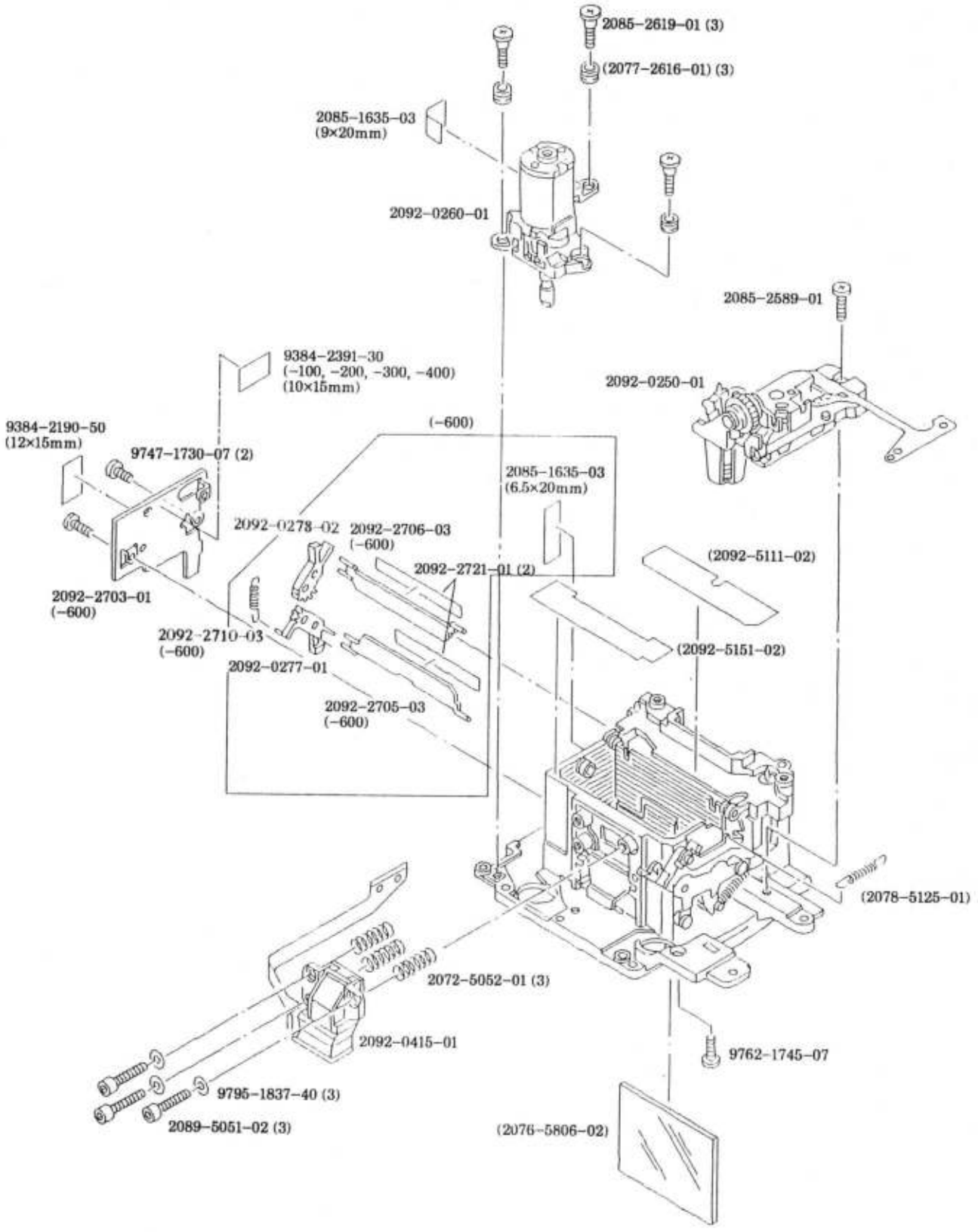
2092-0499-01



PART NUMBER	DESCRIPTION	QTY
2092-0499-01	MIRROR BOX UNIT	1
2092-0150-01	BL CONTACT HOLDER SET	1
2077-0253-01	APERTURE RING SET	1
2092-1010-04	BAYONET LENS MOUNT	1
2092-1011-02	BAYONET SP	1
2092-1012-01	MOUNTING INDEX	1
2092-1490-02	SPACER	1
2092-1538-05	COUPLER STOP LEVER	1
2092-1540-01	SCREW	1
2092-2531-82	RING ROLLER	1
9747-1735-07	SCREW	2
9761-2055-15	SCREW	6
2092-0545-01	LENS-RELEASE UNIT	1
2092-1014-01	BB ADJUSTMENT WASHER-A (T=0.05)	SOME
2092-1015-05	BB ADJUSTMENT WASHER-B (T=0.08)	SOME
2092-1016-05	BB ADJUSTMENT WASHER-C (T=0.1)	SOME
2092-1017-04	BB ADJUSTMENT WASHER-D (T=0.12)	SOME
2092-1018-05	BB ADJUSTMENT WASHER-E (T=0.15)	SOME
2092-1019-05	BB ADJUSTMENT WASHER-F (T=0.2)	SOME
2092-1505-01	COUPLER LEVER AXIS	1
2092-1506-02	COUPLER LEVER SP	1
2092-1511-05	AF/M CONTACT BASE PLATE	1
2092-1515-02	LENS-RELEASE	1
2085-1516-02	LOCK SET SP	1
2092-1521-04	COUPLER LEVER	1
2092-1526-04	SLLK. CONTACT SPACER	1
2092-1527-02	SLLK. CONTACT-A	1
2092-1528-02	SLLK. CONTACT-B	1
9747-1735-07	SCREW	1
9747-1750-07	SCREW	1
2092-5156-01	MIRROR CUSHION-A	1

6 (2092)

2092-0499-01



PART NUMBER	DESCRIPTION	QTY
2092-0250-01	APERTURE PLATE UNIT	1
2092-0260-01	AF MOTOR BASE UNIT	1
2077-2616-01	COLLAR	3
2092-0277-01	PANORAMA OPERATION LEVER UNIT-C (-600)	1
2092-0278-02	PANORAMA OPERATION LEVER UNIT-B (-600)	1
2092-0415-01	FPC-B SET	1
2092-0499-01	MIRROR BOX UNIT	1
2092-5111-02	LIGHT SHIELD SHEET-A	1
2078-5125-01	MIRROR DOWN SP	1
2092-5151-02	LIGHT SHIELD SHEET-B	1
2076-5806-02	MAIN MIRROR	1
2085-1635-03	TAPE (PER ROLL) (-600)	2
2085-2589-01	SCREW	1
2085-2619-01	SCREW	3
2092-2703-01	PANORAMA FRAME HOLDER-B (-600)	1
2092-2705-03	PANORAMA FRAME PLATE-C (-600)	1
2092-2706-03	PANORAMA FRAME PLATE-D (-600)	1
2092-2710-03	PANORAMA OPERATION SP-B (-600)	1
2092-2721-01	PROTECTION SHEET	2
2089-5051-02	SCREW	3
2072-5052-01	AF ADJUSTMENT SP	3
9384-2190-50	DOUBLE-FACED TAPE (PER ROLL)	1
9384-2391-30	ACETATE TAPE (PER ROLL) (-100, -200, -300, -400)	1
9747-1730-07	SCREW	2
9762-1745-07	SCREW	1
9795-1837-40	WASHER	3

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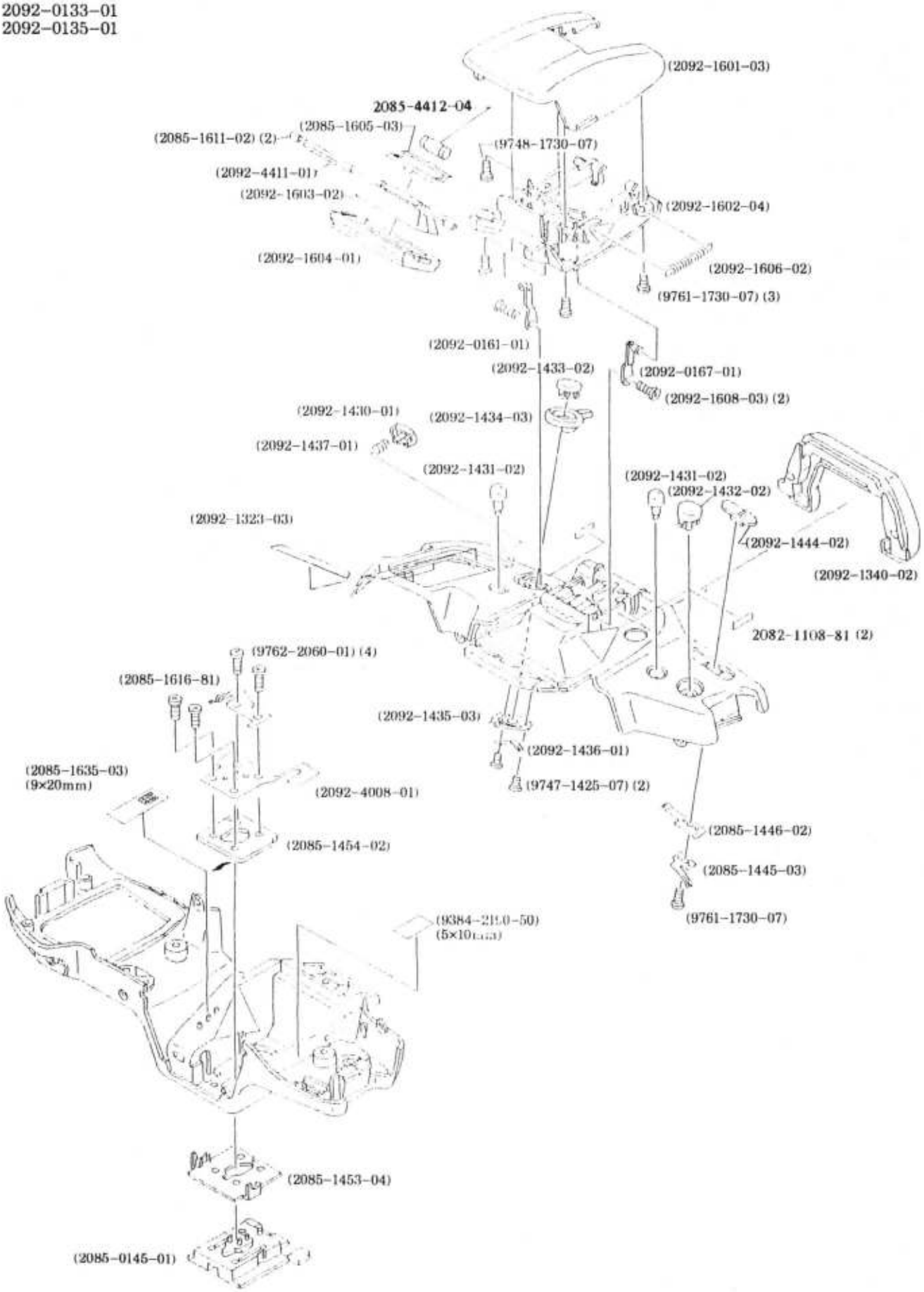
2092-0131-01
2092-0133-01
2092-0135-01



PART NUMBER	DESCRIPTION	QTY
2092-0131-01	TOP COVER UNIT (-100, -200)	1
2092-0133-01	TOP COVER UNIT (-300, -400)	1
2092-0135-01	TOP COVER UNIT (-600)	1
2085-0145-01	ACC. SHOE SET	1
2092-0161-01	FLASH HOLDER UNIT-B	1
2092-0167-01	FLASH HOLDER UNIT-A	1
2092-1323-03	DOUBLE-FACED TAPE-A	1
2092-1324-02	DOUBLE FACED TAPE-B (DISCONTINUED)	1
2092-1340-02	EYEPIECE CUP	1
2092-1430-01	APERTURE BUTTON	1
2092-1431-02	DRIVE/SELF BUTTON	2
2092-1432-02	EXPOSURE-MODE BUTTON	1
2092-1433-02	PROGRAM-RESET BUTTON	1
2092-1434-03	S/C SELECTOR	1
2092-1435-03	S/C CLICK PLATE	1
2092-1436-01	S/C CONTACT	1
2092-1437-01	APERTURE BUTTON SP	1
2092-1444-02	MAIN SWITCH	1
2085-1445-03	MAIN SWITCH CONTACT	1
2085-1446-02	MAIN SWITCH CLICK PLATE	1
2085-1453-04	SHOE BASE	1
2085-1454-02	SHOE SETTING PLATE	1
2092-1601-03	FLASH COVER	1
2092-1602-04	FLASH BASE PLATE	1
2092-1603-02	XE HOLDER-A	1
2092-1604-01	FLASH PANEL	1
2085-1605-03	XE HOLDER-B	1
2092-1606-02	UP/DOWN SP	1
2092-1608-03	SCREW	2
2085-1611-02	RUBBER TUBE	2
2085-1616-81	POP-UP DETECT CONTACT	1
2082-1108-81	SPACER	2
2085-1635-03	TAPE (PER ROLL)	1
2092-4008-01	FPC-H	1
2092-4411-01	XE TUBE	1
2085-4412-04	TRIGGER COIL	1
9384-2190-50	DOUBLE-FACED TAPE (PER ROLL)	1
9747-1425-07	SCREW	2
9748-1730-07	SCREW	1
9761-1730-07	SCREW	4
9762-2060-01	SCREW	4

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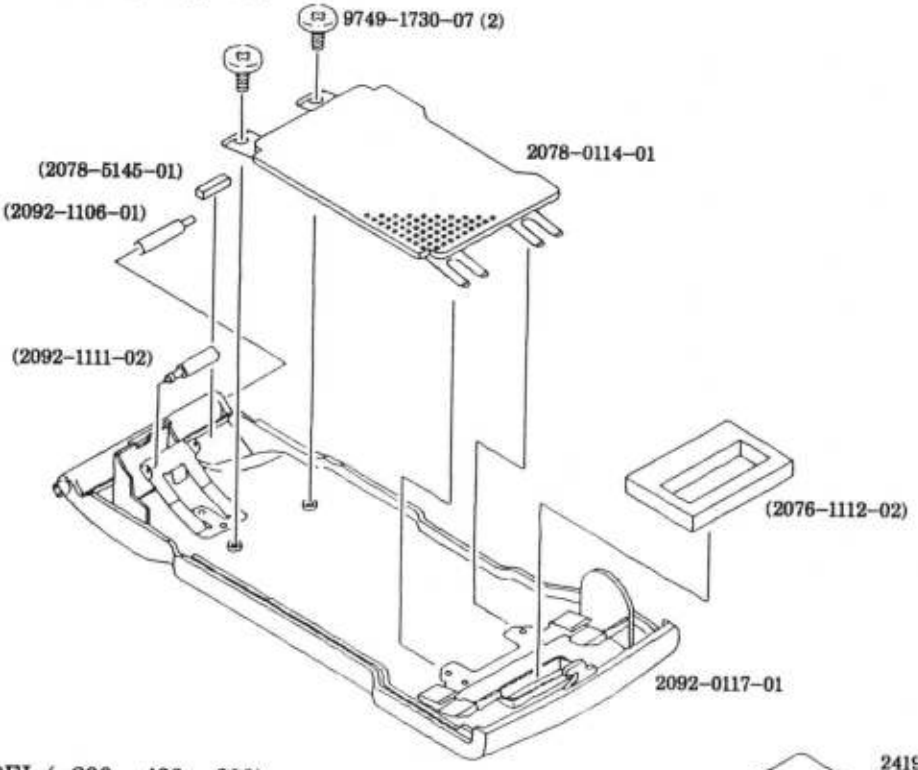
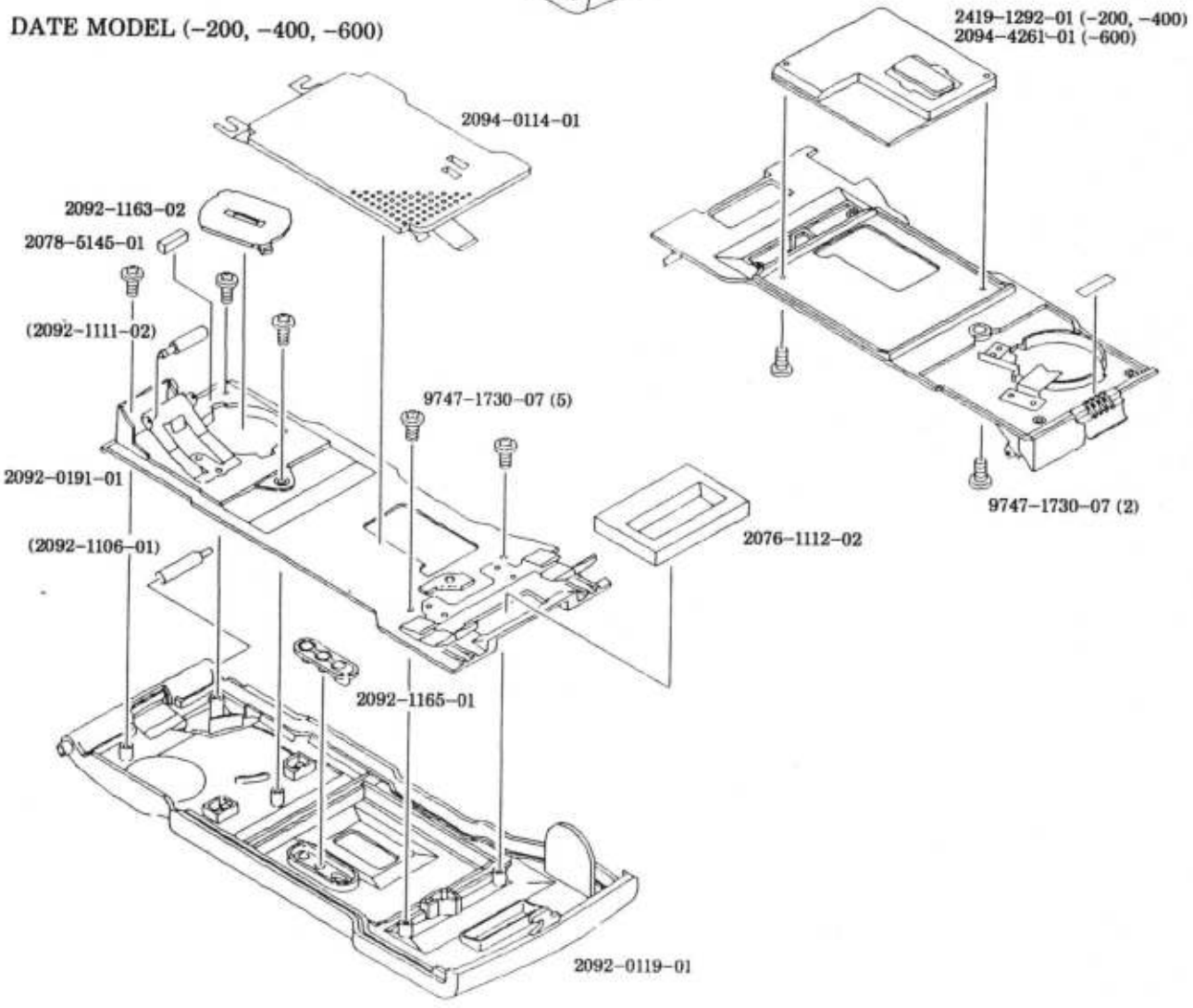
NON DATE MODEL (–100, –300)



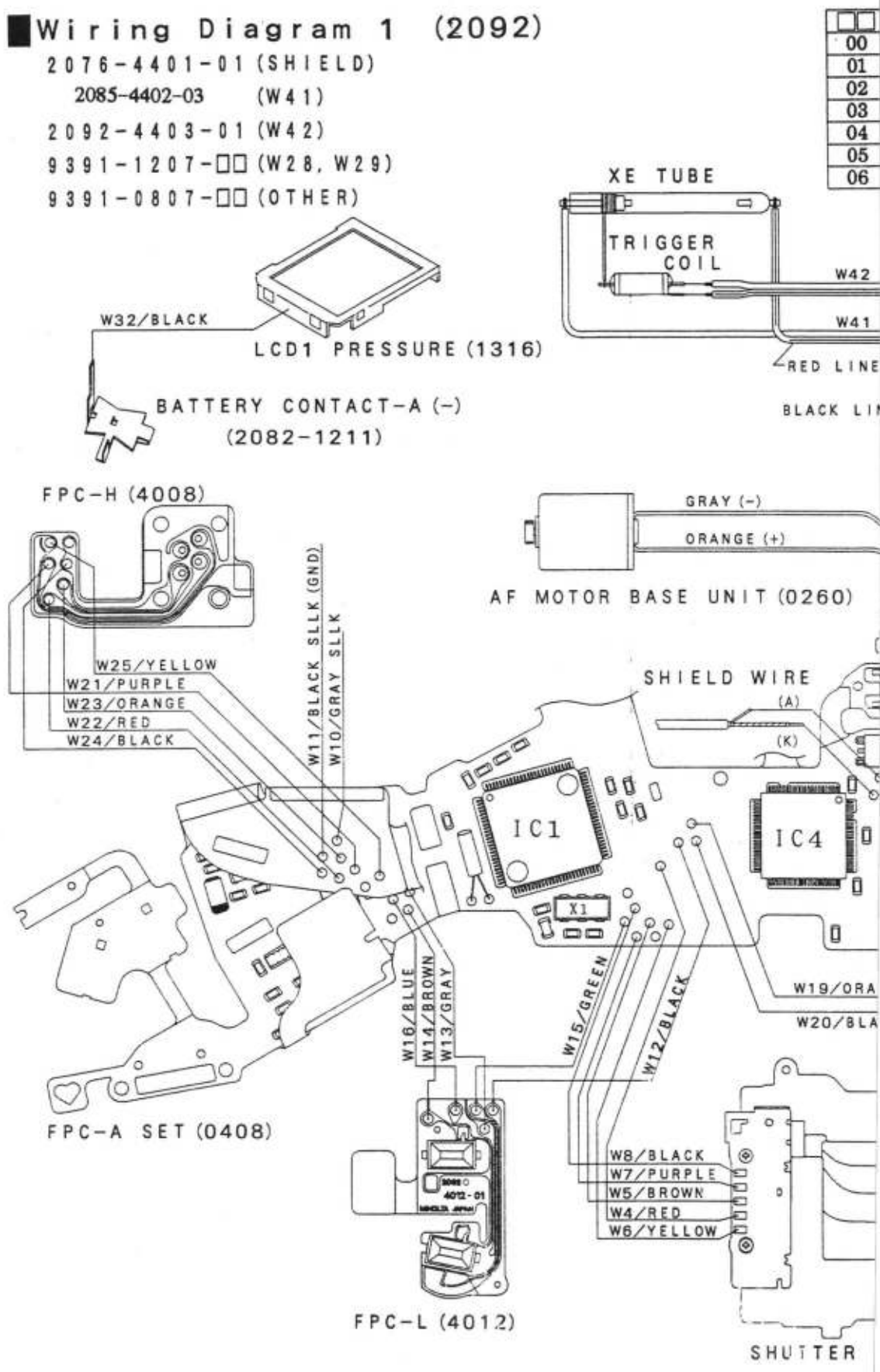
DATE MODEL (–200, –400, –600)



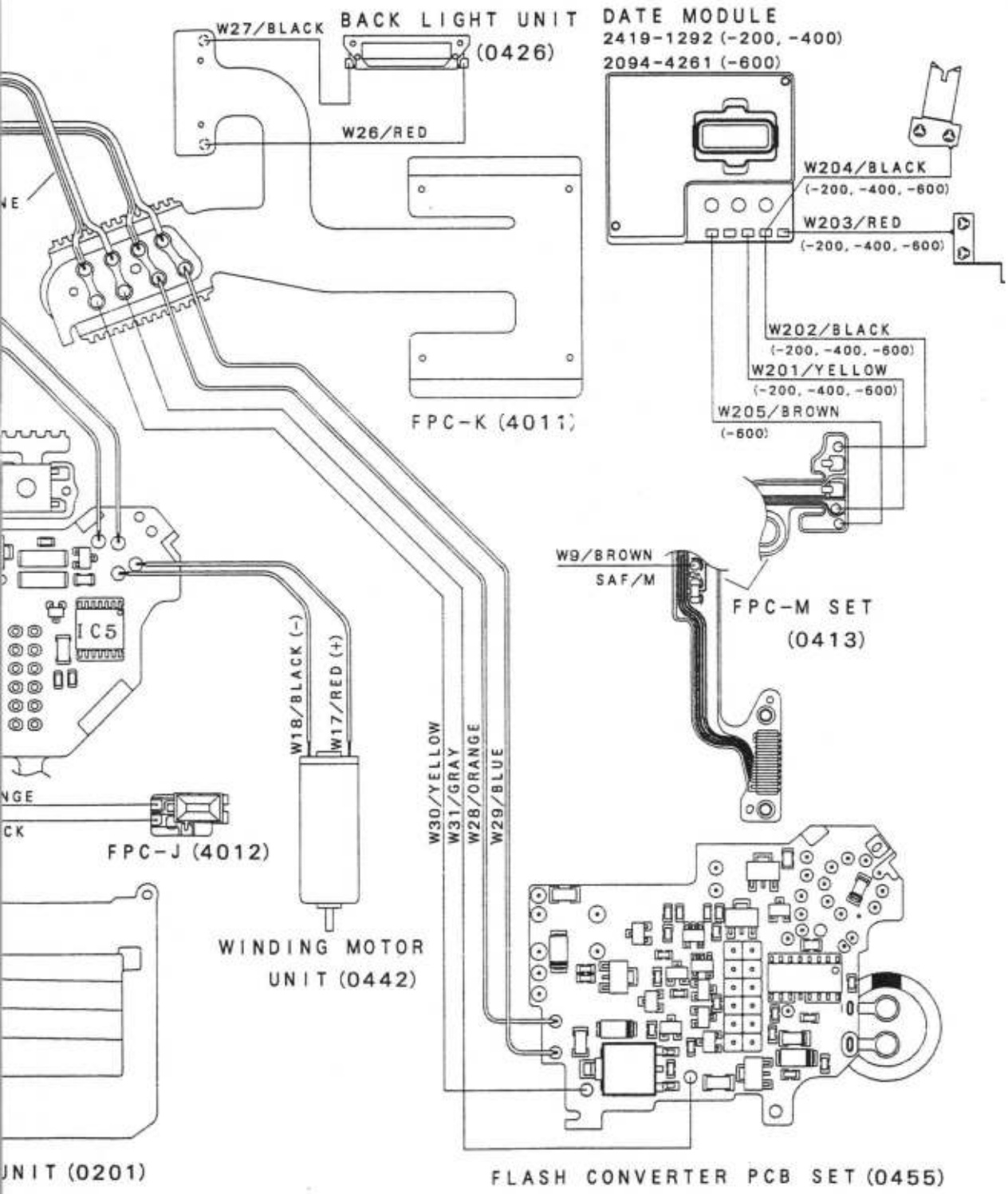
PART NUMBER	DESCRIPTION	QTY
2078-0114-01	PRESSURE PLATE SET	1
2092-0117-01	BACK COVER UNIT (-100, -300)	1
2092-1106-01	BACK COVER HINGE AXIS	1
2092-1111-02	BACK COVER ROLLER	1
2076-1112-02	LIGHT SHIELD SPONGE	1
2078-5145-01	MIRROR CUSHION	1
9749-1730-07	SCREW	2
2094-0114-01	PRESSURE PLATE SET	1
2092-0119-01	BACK COVER UNIT (-200, -400, -600)	1
2092-1106-01	BACK COVER HINGE AXIS	1
2092-0191-01	DATE MODULE BASE PLATE UNIT (-200, -400, -600)	1
2092-1111-02	BACK COVER ROLLER	1
2076-1112-02	LIGHT SHIELD SPONGE	1
2092-1163-02	BATTERY COVER (-200, -400, -600)	1
2092-1165-01	KEY	1
2419-1292-01	DATE MODULE (-200, -400)	1
2094-4261-01	DATE MODULE (-600)	1
2078-5145-01	MIRROR CUSHION	1
9747-1730-07	SCREW	7

Wiring Diagram 1 (2092)

2076-4401-01 (SHIELD)
2085-4402-03 (W41)
2092-4403-01 (W42)
9391-1207-□□ (W28, W29)
9391-0807-□□ (OTHER)



Color/色			Color/色	
Black	黒	07	Purple	紫
Brown	茶	08	Grey	灰
Red	赤	09	White	白
Orange	橙	10	Pink	ピンク
Yellow	黄	11	Light Blue	水色
Green	緑	12	Green yellow	黄緑
Blue	青			



Repair Guide

■Contents of this manual are in accordance with the assembly procedure.
Therefore, follow the reverse procedure when disassembling.
■Refer to Wiring diagram on Parts List, page 9 for wiring.

■Symbols
■ : Cautions and keypoints
[G] : Grease
[B] : Adhesive
[T] : Tool

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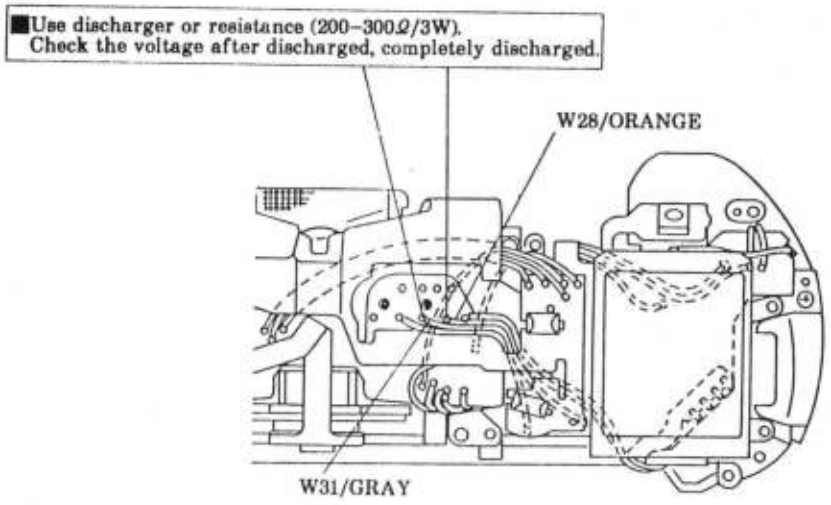
■Precautions

■To discharge

• Before disassembly, be sure to discharge main condenser as in Fig. 1.

■Fig. 1



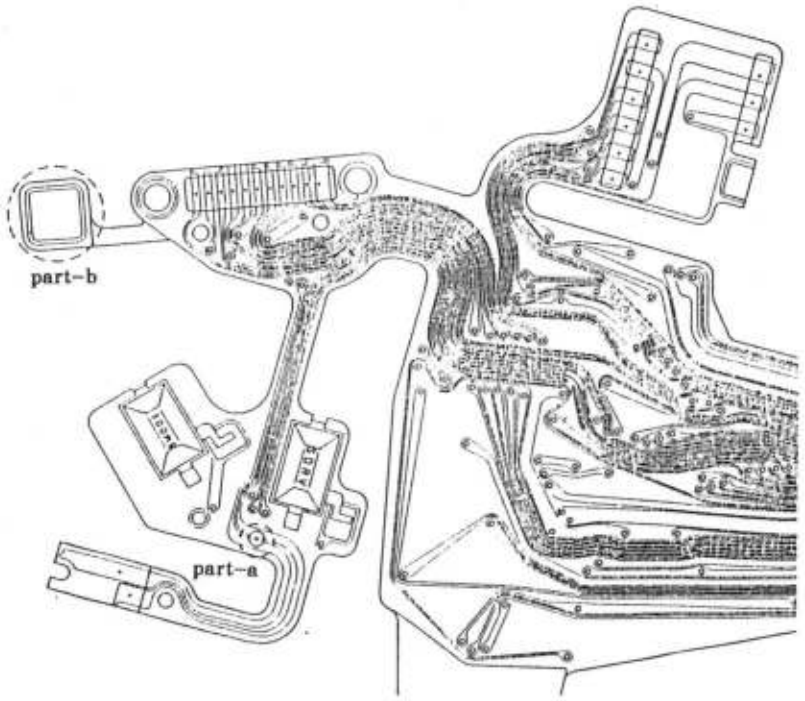
■To activate without Top Cover (Fig. 2)

• Solder indicated part–a on FPC–A Set to short–circuit.

• Replacement FPC–A Set is initially short circuitted at the part–b. So when using the replacement FPC–A Set, you don't need to short circuit the part–a.

※Be sure to unsolder the part–a, or to cut the part–b before installing Top Cover.

■Fig. 2



■Precautions

■Chemicals

Handle chemicals of high volatility with care, use of which will affect to your health and the environment.

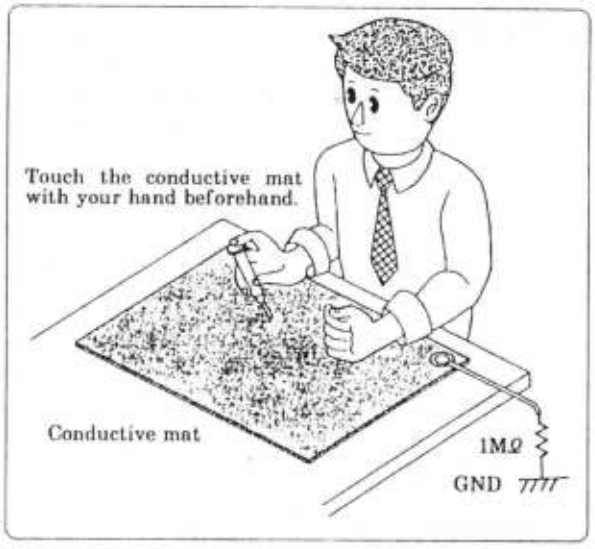
1. **Store them sealed in a specific place to prevent from exposure to a high temperature or direct sunlight.**
2. **Avoid dividing them into small containers and prevent from vaporization.**
3. **Keep containers sealed when not in use.**
4. **Avoid using them as much as possible. When required, remove only required amount from the container to make full use.**

■Plastic parts

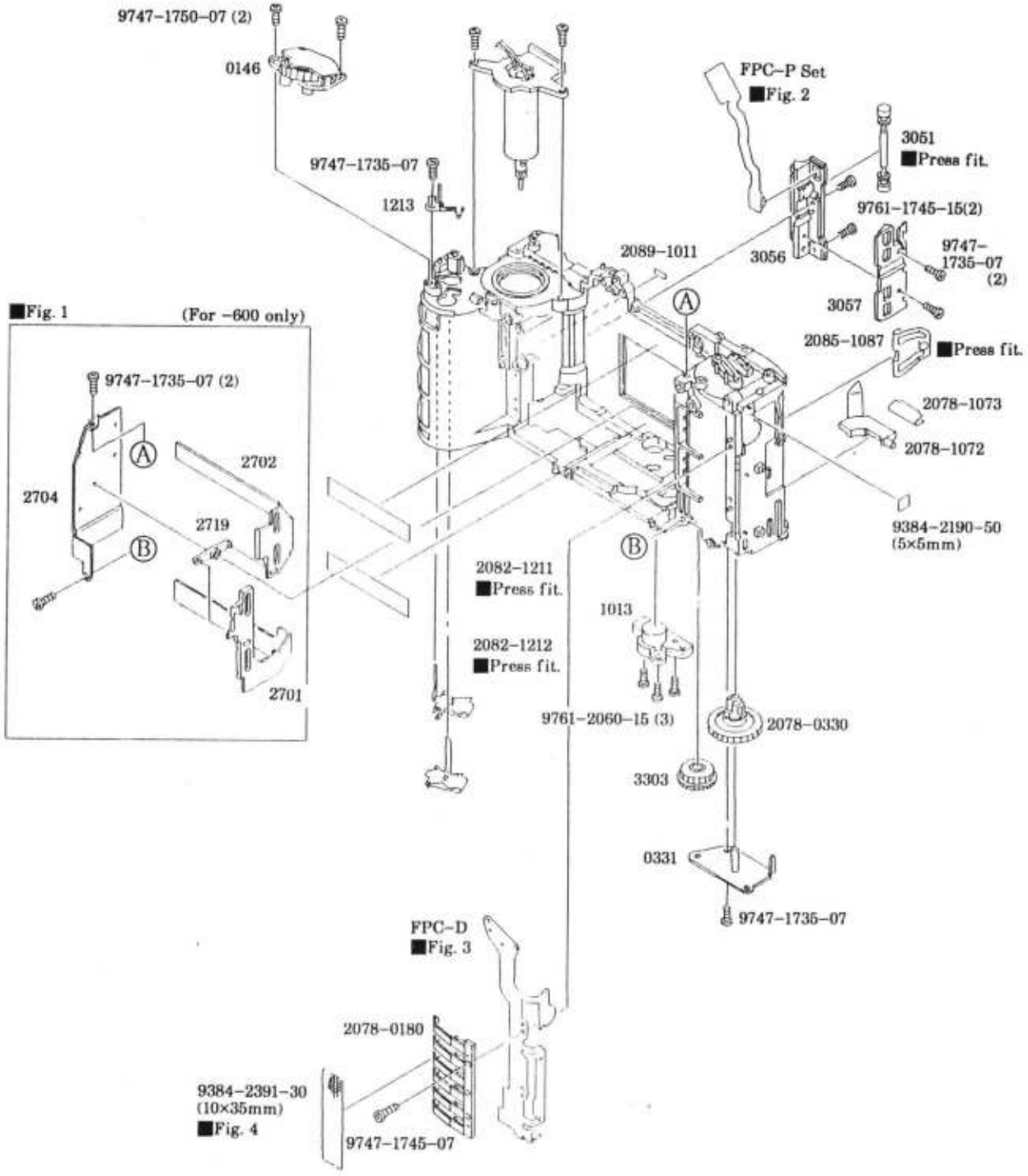
1. **When cleaning the plastic parts, use cleaning paper or cloth.** Never use thinner, ketone, ether.
2. When installing the plastic parts, insert the specific screws vertically to the parts. (Be careful not to tighten too much.)

■PCBs

Since PCBs use MOS IC, you must reduce a static electricity. When repairing a PCB itself, or when wiring, please perform your work as illustrated above.
When grounding is impossible, connect the cable to a steel desk or shelf.

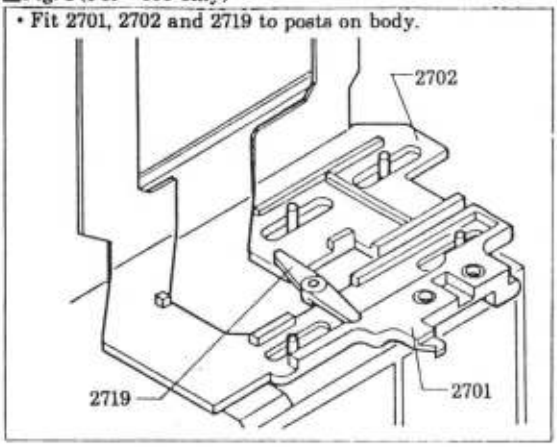


1 Body Assembly



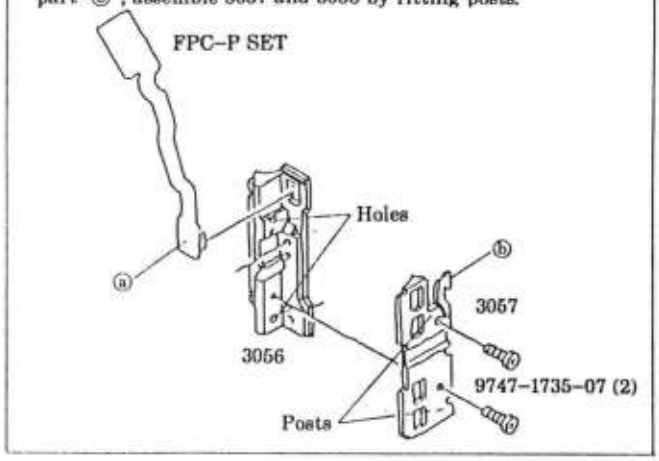
■Fig. 1 (For −600 only)

• Fit 2701, 2702 and 2719 to posts on body.



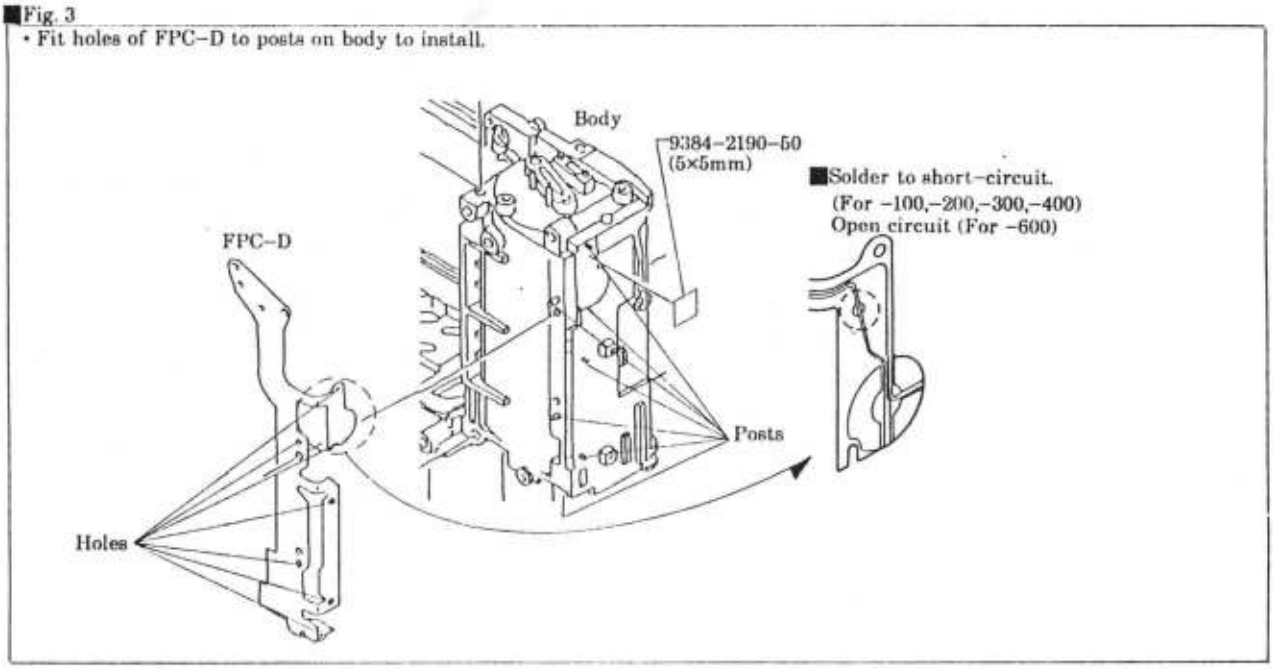
■Fig. 2

• Fit FPC−P Set to 3056. While holding part−ⓐ with part−ⓑ , assemble 3057 and 3056 by fitting posts.



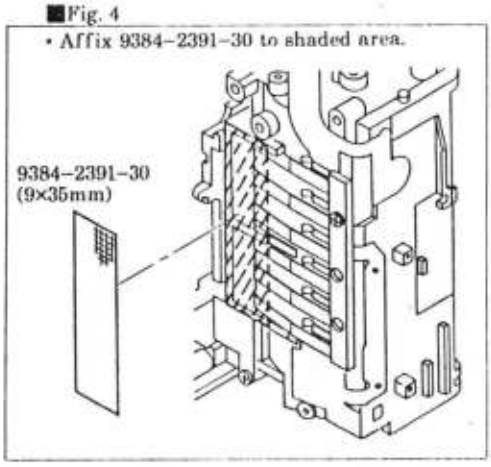
■Fig. 3

• Fit holes of FPC−D to posts on body to install.

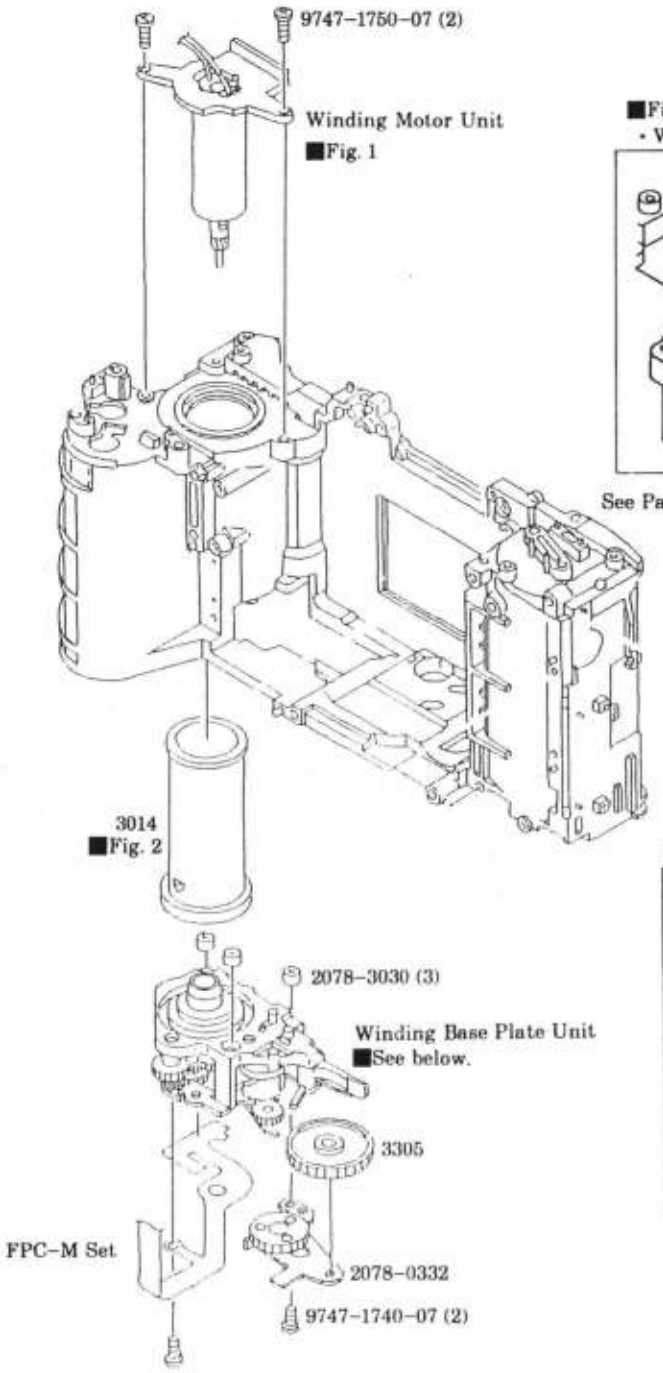


■Fig. 4

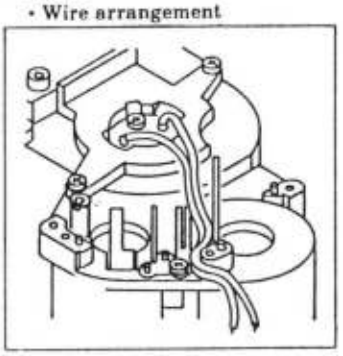
• Affix 9384−2391−30 to shaded area.



2 Winding Base Plate Unit, Winding Motor Unit Installation

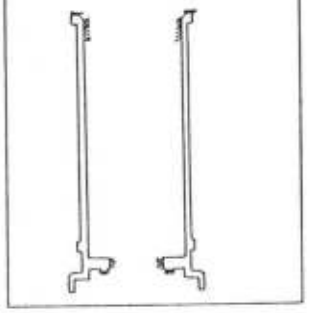


■Fig. 1
• Wire arrangement



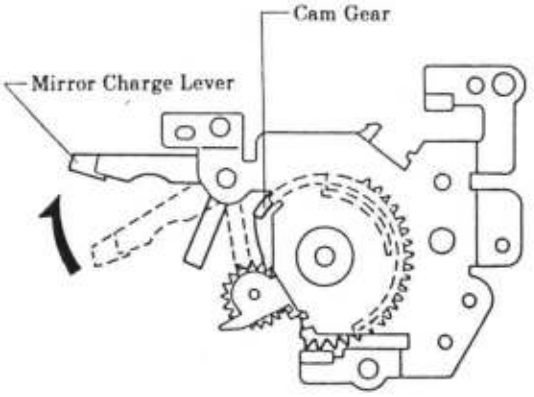
See Page 4

■Fig. 2
• Apply G-75 to shaded area.



■Installing Winding Base Plate Unit

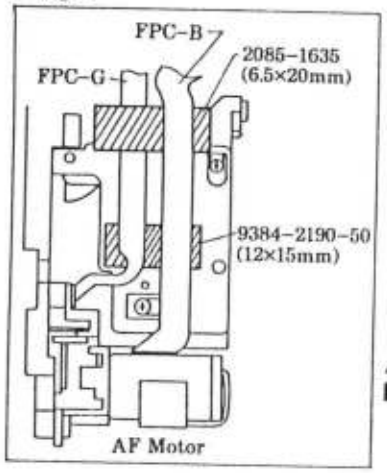
1. Set Cam gear to the indicated position so that Mirror Charge Lever is set to the position of arrow. (Charge completed.)
2. Install Winding Base Plate Unit to the body.



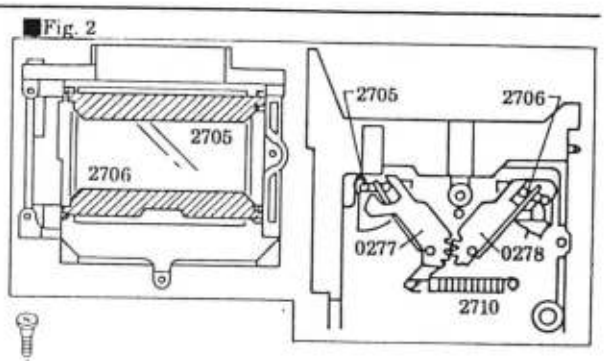
3 Mirror Box Assembly– I

■Install in the order of ① to ④.

■Fig. 4



■Fig. 2



2085–2619 (3)

2085–1635
(9×20mm)

AF Motor Base Unit
■Never disassemble.

2077–2616 (3)

2085–2589

Aperture Base Plate Unit
■Never disassemble.

(For –600 only)

■Fig. 2

9384–2190–50
(12×15mm)
■Fig. 4

9747–1730–07 (2)

2703

■Fig. 4 2085–4559
(6.5×20mm)

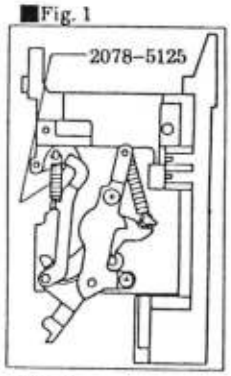
0278
2706
2710
2721 (2)
0277
2705

5111
5151

B–60

B–60

■Fig. 1



■Fig. 1
2078–5125

FPC–B Set
■Fig. 3

2085–5052 (3)

2089–5051 (3)

9795–1837–40 (3)

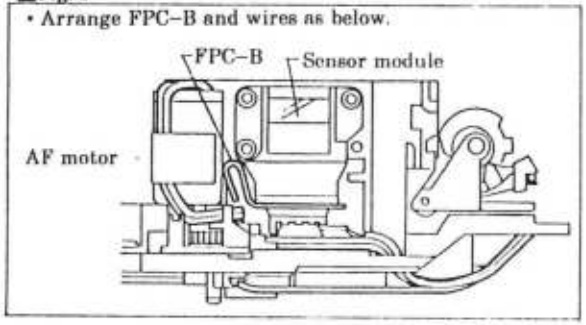
T Hexagon Wrench (1.5)
■Tighten screws until they stop, Then loosen them by two turns.

9762–1745–07

2076–5806
■Use T Mirror Positioner for installation.
■Use T Mirror Remover for removal.

B–50
■Leave for 24 hours after affixing.

■Fig. 3

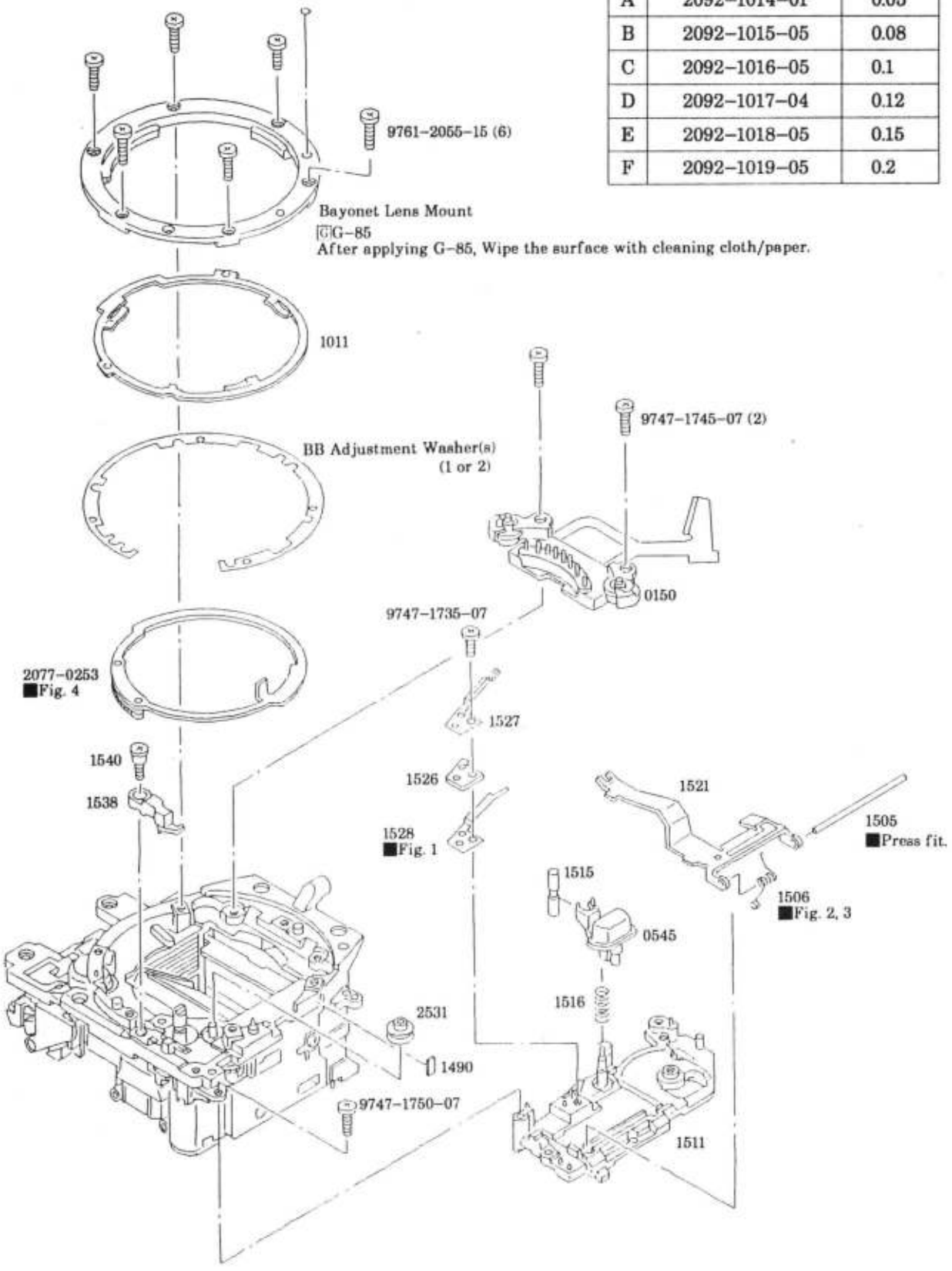


4 Mirror Box Assembly – II

■Install in the order of ① to ⑦.

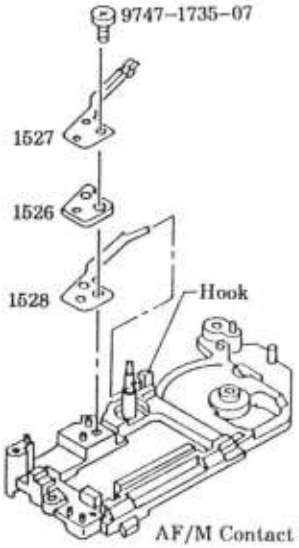
■BB ADJUSTMENT WASHER

	部品番号	T=(mm)
A	2092-1014-01	0.05
B	2092-1015-05	0.08
C	2092-1016-05	0.1
D	2092-1017-04	0.12
E	2092-1018-05	0.15
F	2092-1019-05	0.2



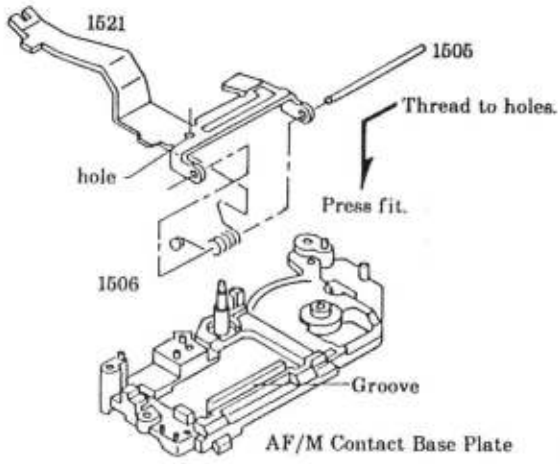
■Fig. 1

• Hook tip of 1528 to the indicated part–of AF/M Contact Base Plate.



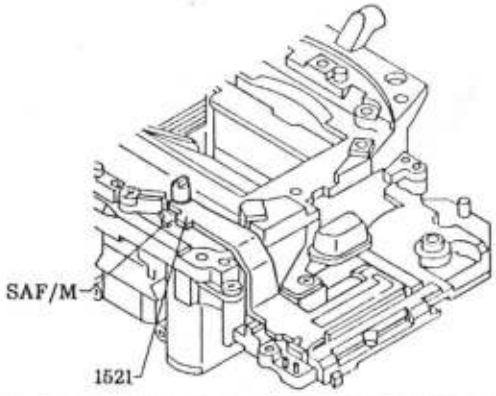
■Fig. 2

• Assemble 1505, 1506, and 1521 as shown, then press 1505 to fit to the groove of AF/M Contact Base Plate.



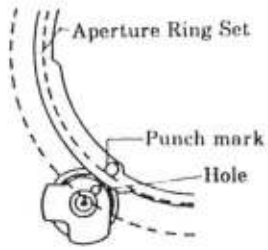
■Fig. 3

• Fit 1521's tip notch to groove of AF coupler.



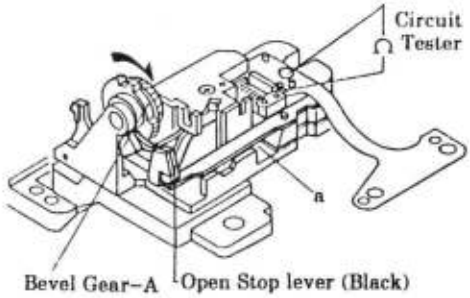
■Fig. 4

1.Set Aperture Base Plate Unit to aperture–stopped–down position.
2.Install Aperture Ring Set aligning the punch mark with the hole of Aperture Base Plate Unit.



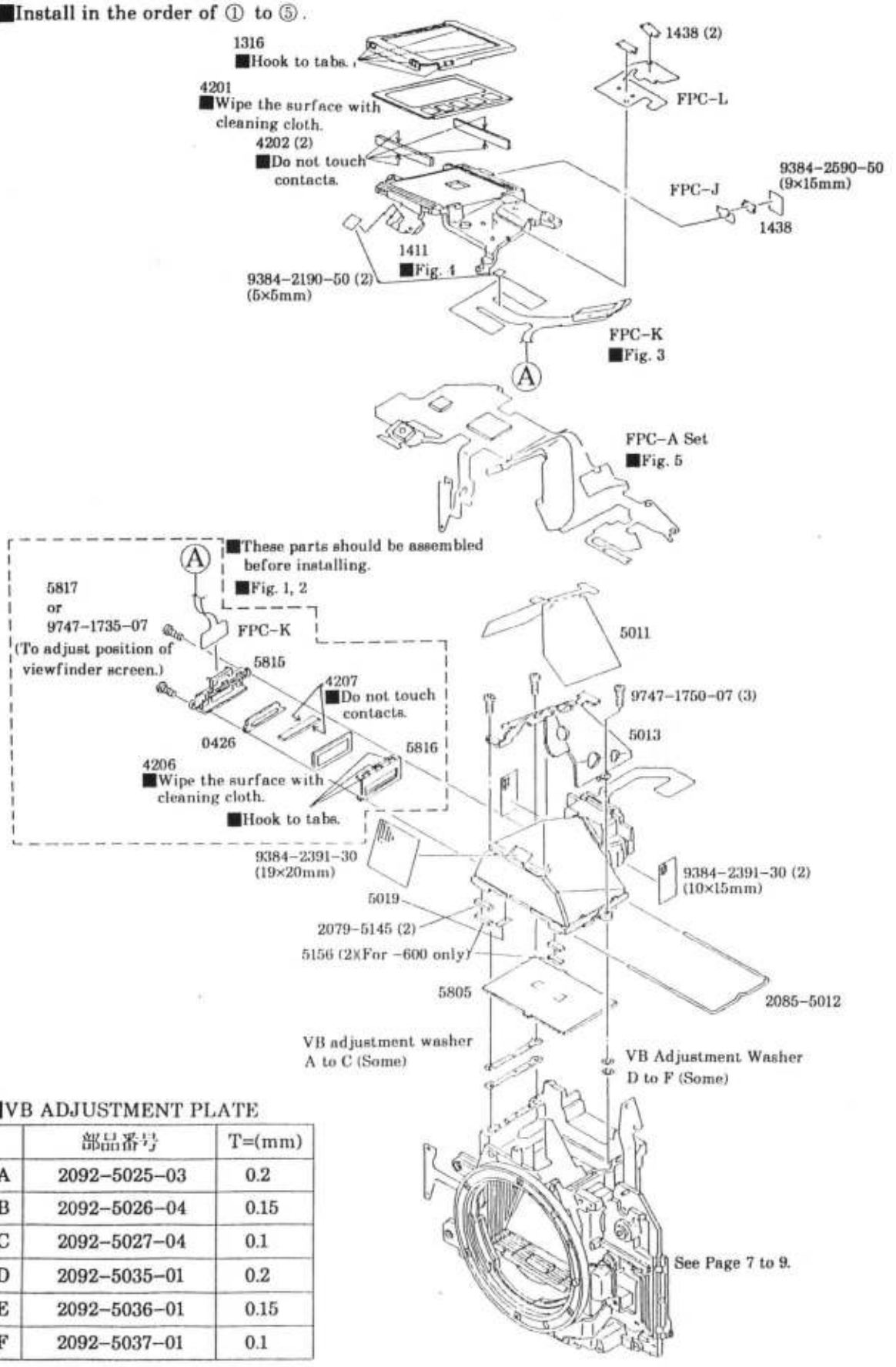
■Sw. REL timing adjustment

1. Connect Circuit Tester to the position shown in figure.
2. Turn Bevel Gear–A in the direction of arrow until it stops.
3. By pushing Open Stop Lever slowly, check that the Sw. REL is turned on before the Open Stop Lever is released from the Bevel Gear–A.
4. If not, bend part–a to adjust the Sw. REL timing.



5 Penta Prism Unit, FPC–A Set Installation

■Install in the order of ① to ⑤.



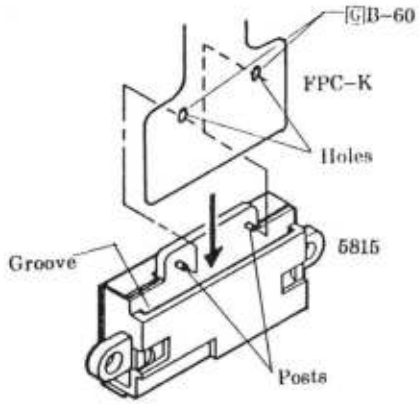
■VB ADJUSTMENT PLATE

	部品番号	T=(mm)
A	2092–5025–03	0.2
B	2092–5026–04	0.15
C	2092–5027–04	0.1
D	2092–5035–01	0.2
E	2092–5036–01	0.15
F	2092–5037–01	0.1

See Page 7 to 9.

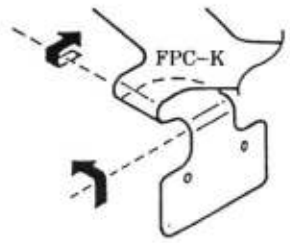
■Fig. 1

• Install FPC–K to 5815 by fitting its tip to groove, holes to posts.



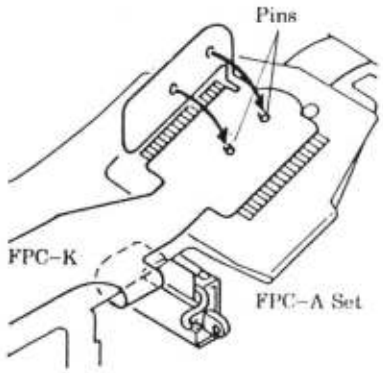
■Fig. 2

• Fold FPC–K in the direction of arrows.



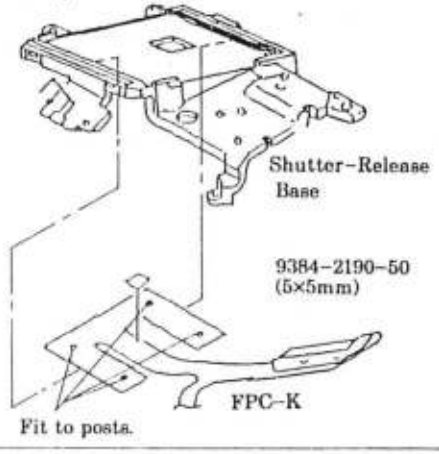
■Fig. 3

• Fit holes of FPC–K to pins on FPC–A Set, then fold the FPC–K as shown.



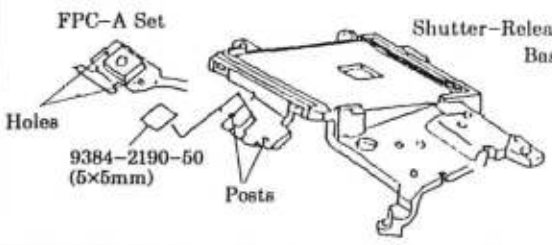
■Fig. 4

• Install FPC–K to Shutter–Release Base by fitting to grooves and posts.



■Fig. 5

• Fit the indicated part of FPC–A Set to the posts of Shutter–Release Base.



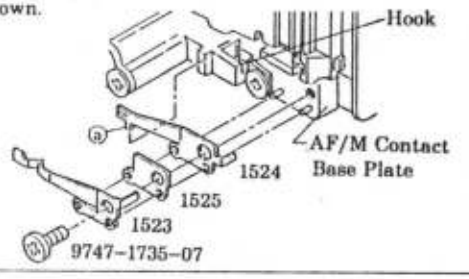
6 Mirror Box Unit Installation

■Arrange wires referring to Fig. 5, 6.

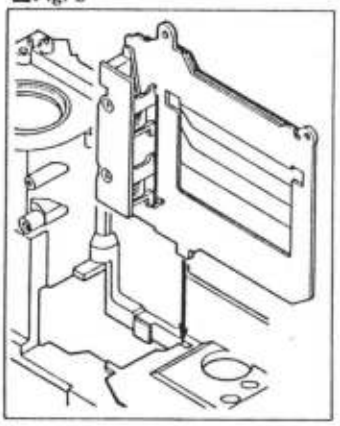
■After installation, check mechanical operation referring to page 13.

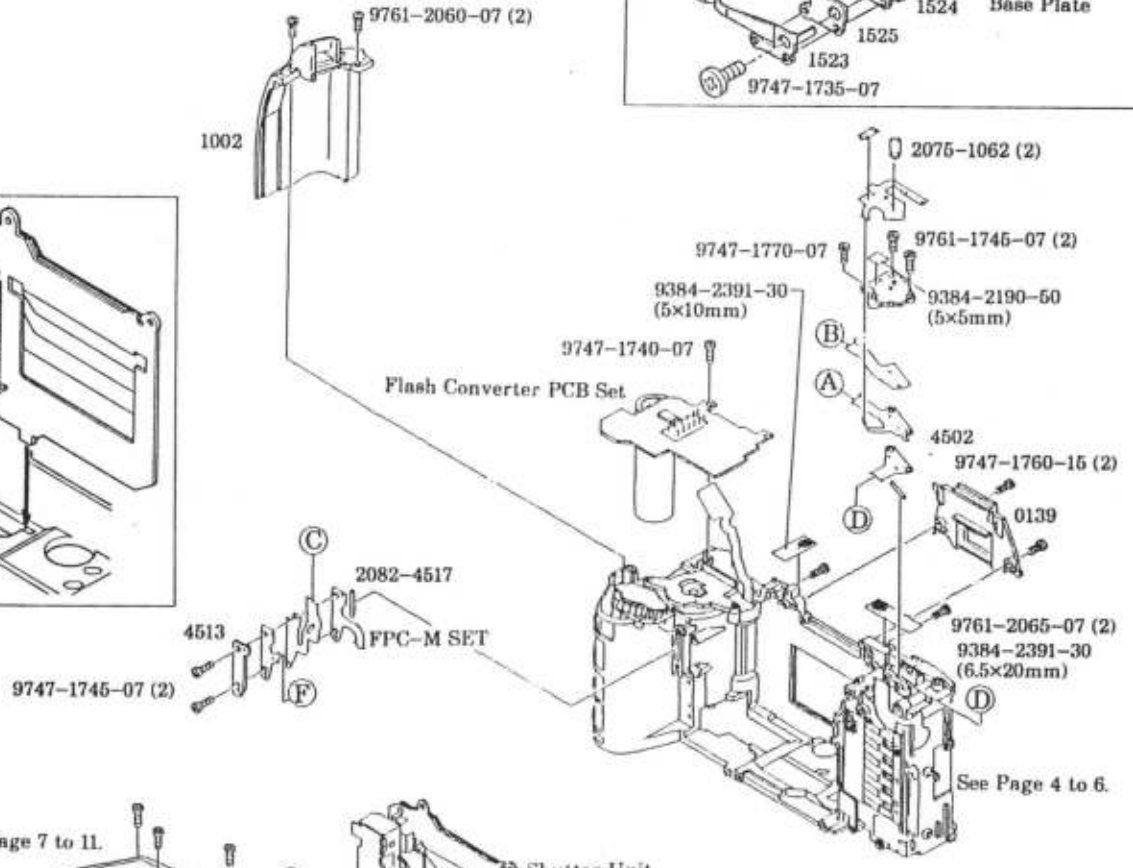
■Fig. 1

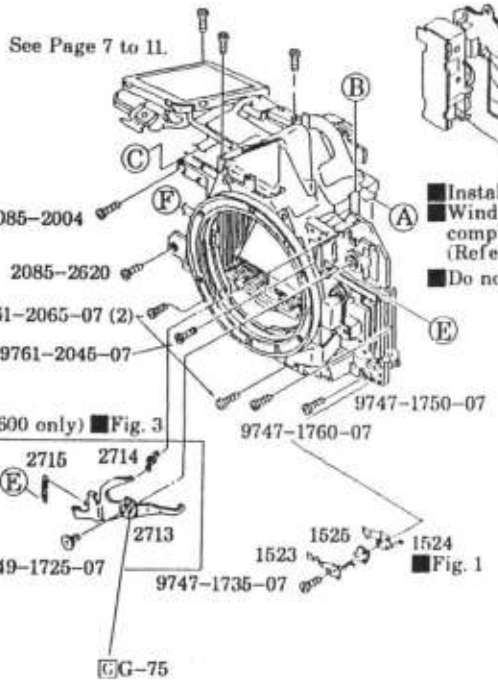
• Hook the part ⓐ to AF/M Contact Base Unit as shown.

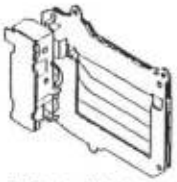


■Fig. 2







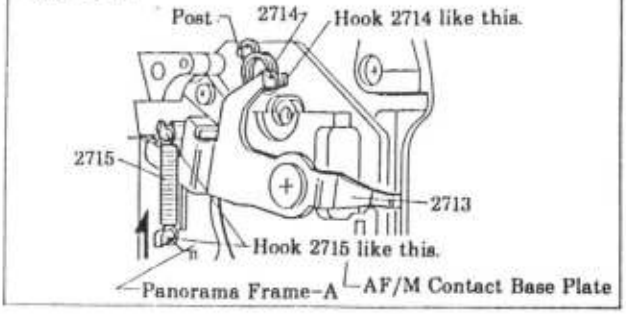


Shutter Unit
■Fig. 2

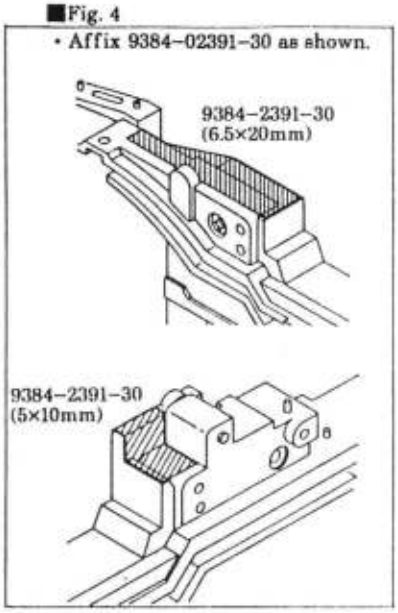
■Install Mirror Box Unit keeping the mirror up.
■Winding Base Plate Unit should be charged completely before Mirror Box Unit is installed. (Refer to "Installing Winding Base Plate Unit" on page 6.)
■Do not pinch wires from Shutter Unit.

■Fig. 3 (For -600 only)

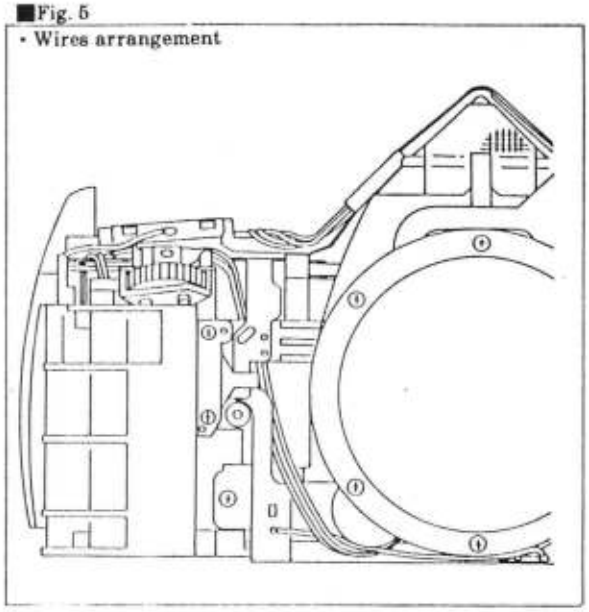
• While pushing and holding Panorama Frame Plate-A in the direction of arrow, hook 2715 to the Panorama Frame-A and to 2713 as shown.
• Hook 2714 to 2713 and to post of the AF/M Contact Base Plate.



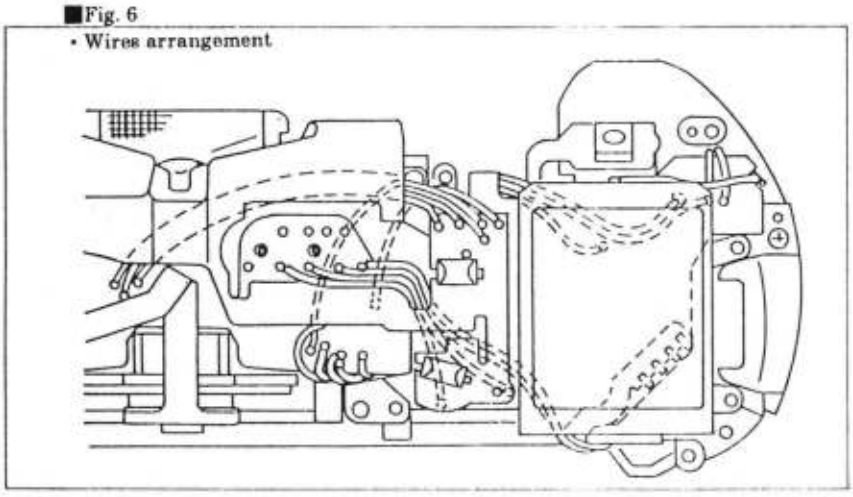
■Fig. 4



■Fig. 5



■Fig. 6



■Mechanical operation check

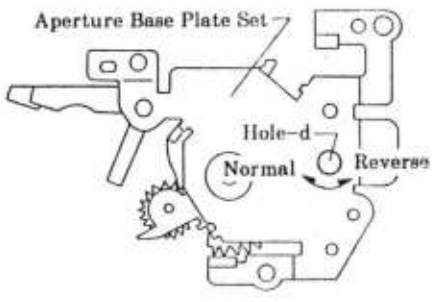
1.Insert Motor axis spanner to hole-d of Aperture Base Plate Set from the bottom of body, then turn the motor manually in both direction to confirm mechanical operation (Fig. 1).

Normal drive (clockwise): Shutter is released then charged.

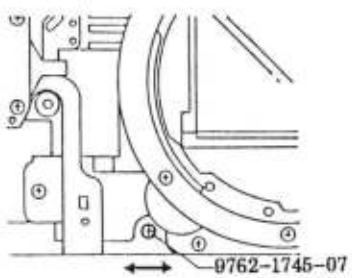
Reverse drive (counterclockwise): Spool rotates.

2.If Aperture Ring Set doesn't operate smoothly, adjust Screw (9762–1745–07) for smooth operation. (Fig. 2)

■Fig. 1

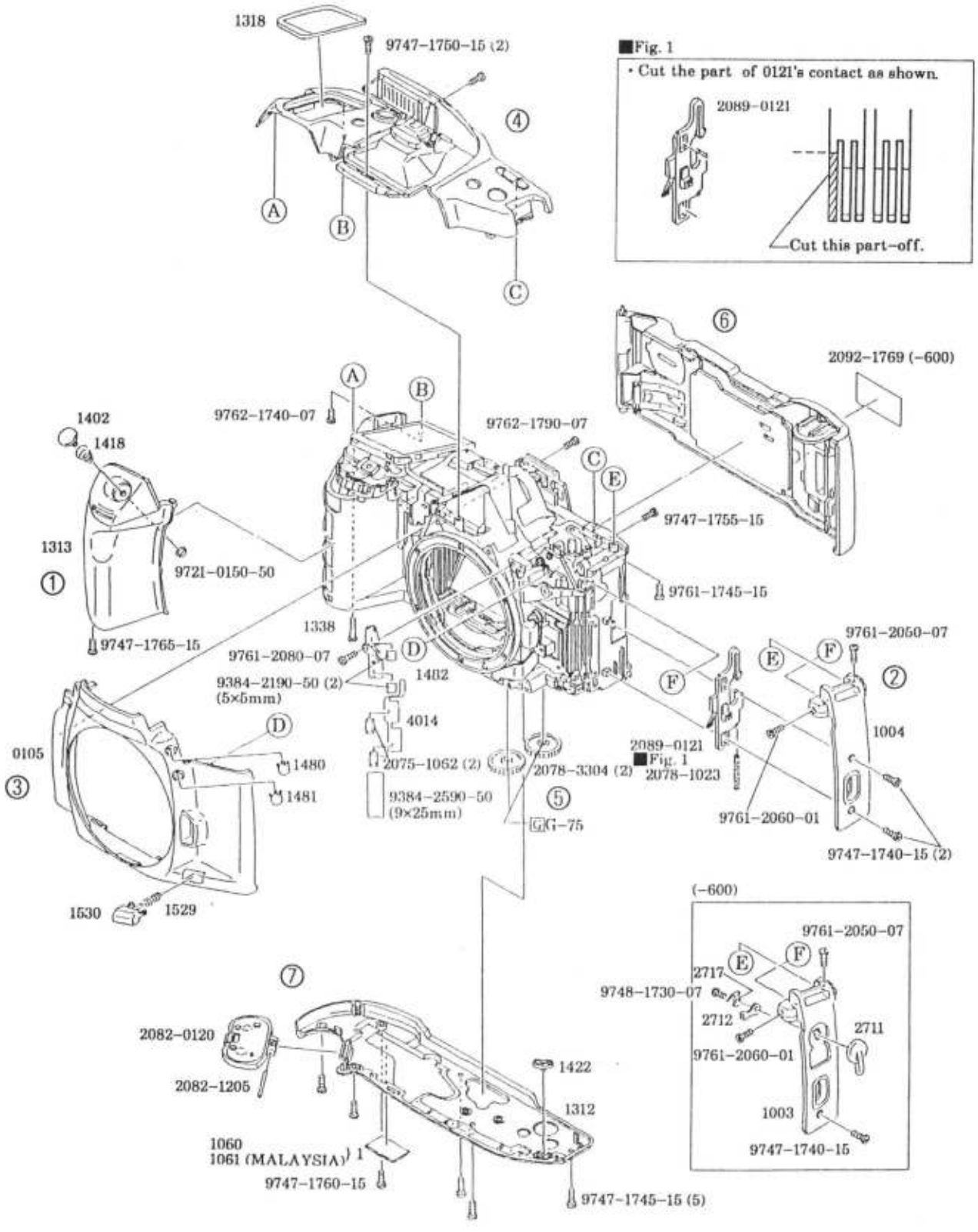


■Fig. 2



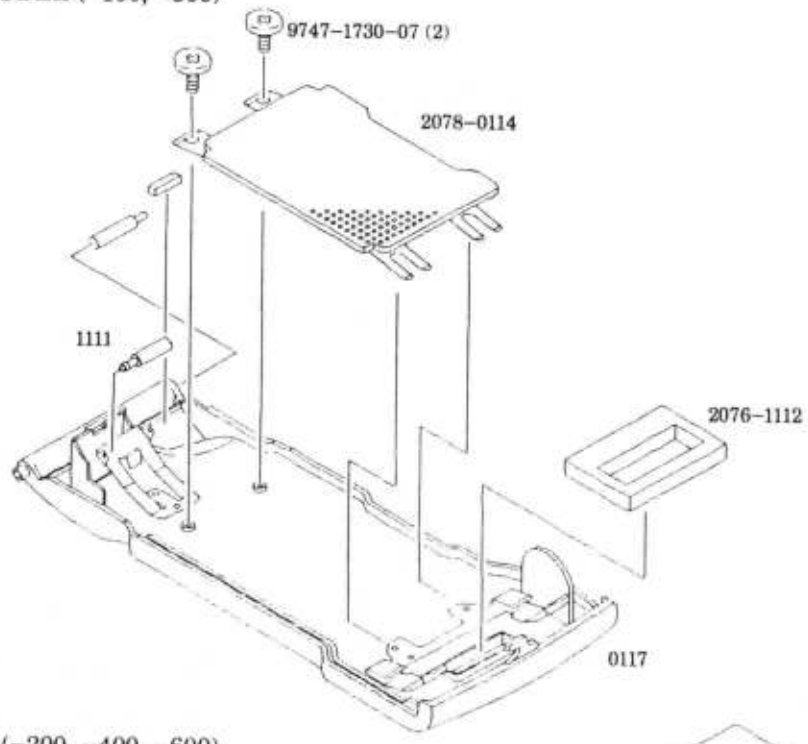
7 External parts Installation

■Install in the order of ① to ⑦.
■Discharge main condenser before disassembly. (See page 2.)
■Be sure to unsolder main Sw. pattern or cut the pattern in FPC-K before installing the Top Cover. (See page 2.)

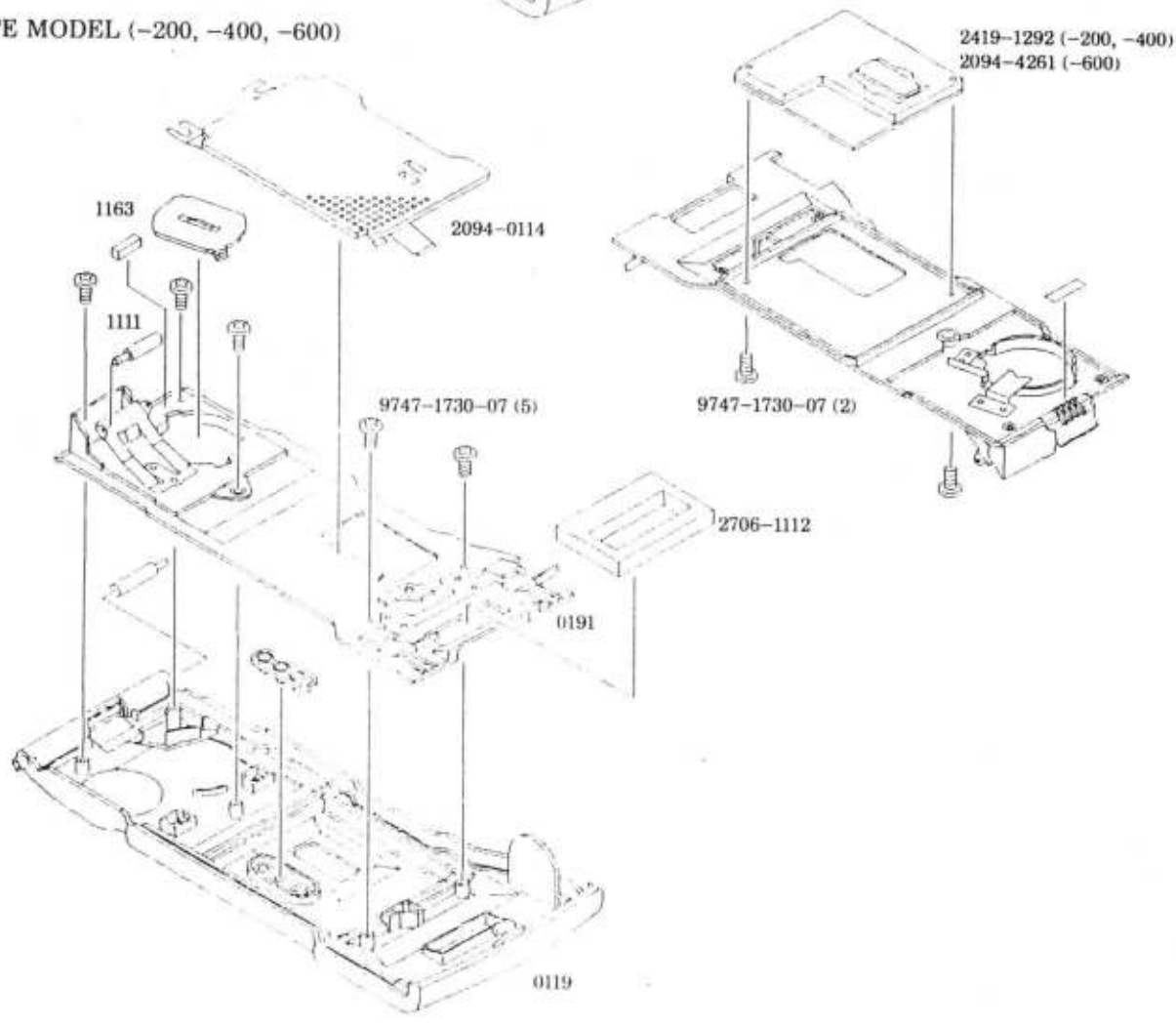


■Back Cover Unit Installation

NON DATE MODEL (–100, –300)

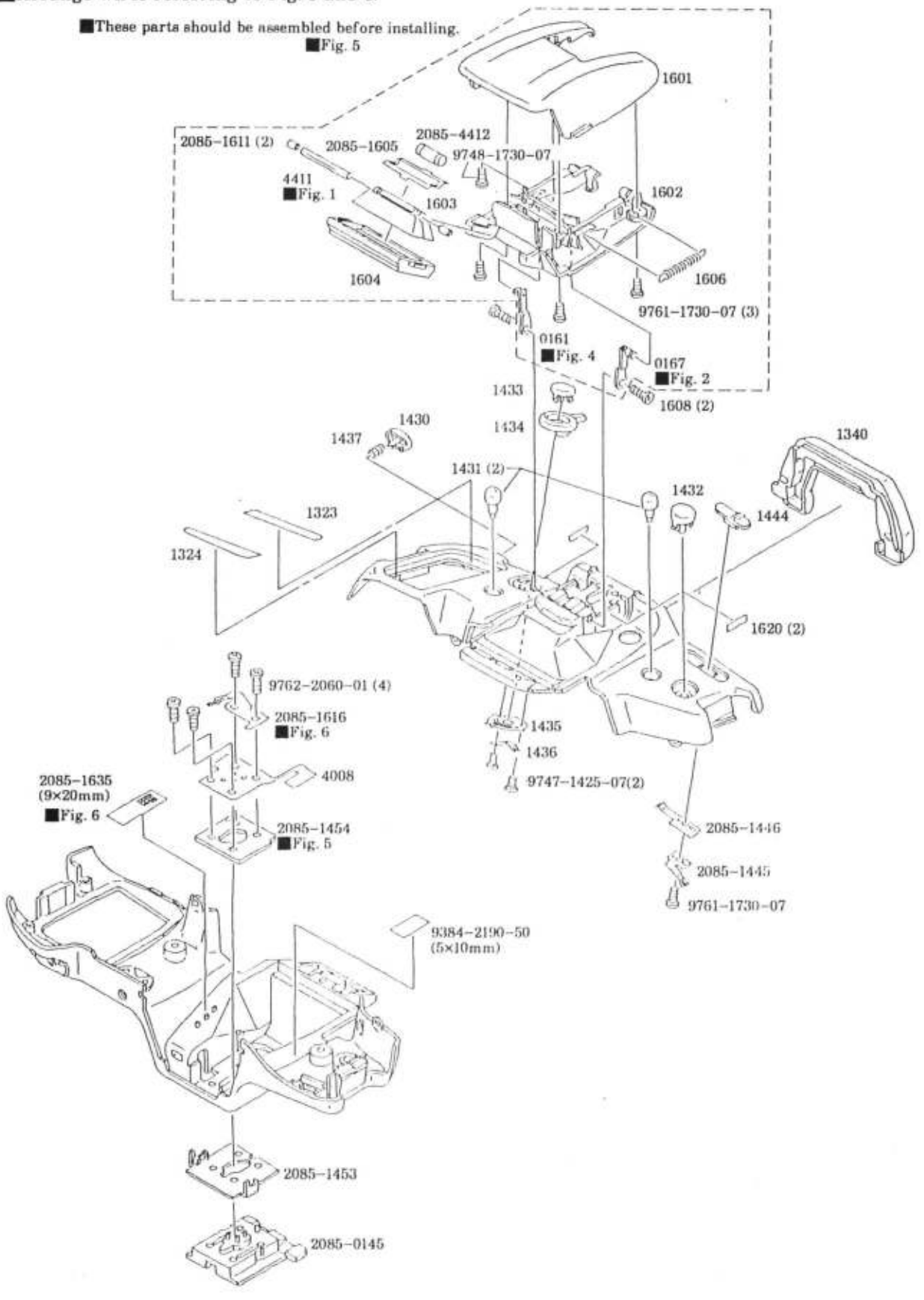


DATE MODEL (–200, –400, –600)



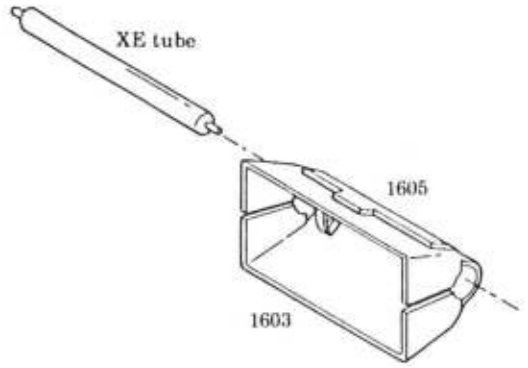
■ Top Cover Unit Assembly

■Arrange wires referring to Fig. 3 and 6.



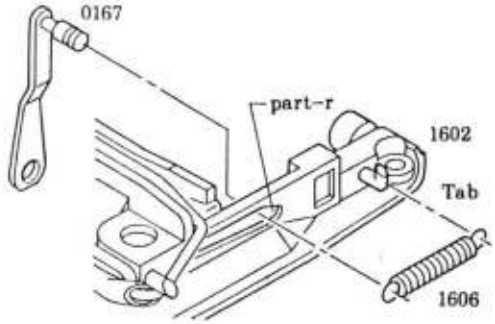
■Fig. 1

• Assemble 1603 and 1605, then insert XE tube.



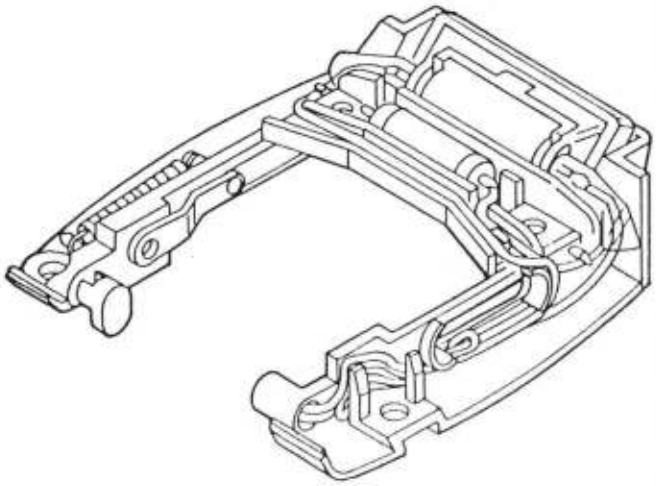
■Fig. 2

1.Thread tip of 0167 through the part-r of 1602.
2.Hook one end of 1606 to the 0167, the other to tab of 1602.



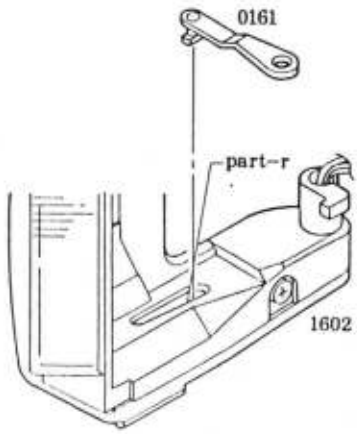
■Fig. 3

• Wires arrangement



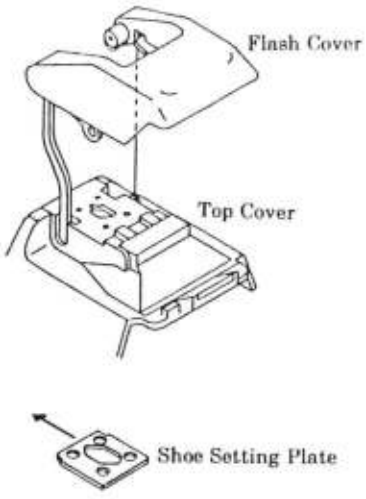
■Fig. 4

• Insert 0161 to the part-r of 1602.



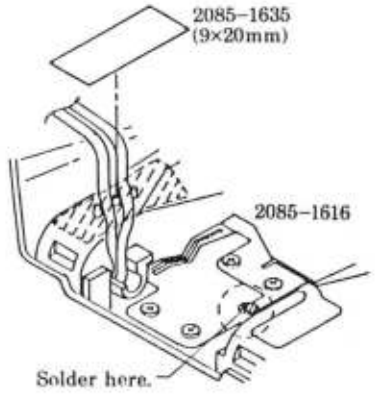
■Fig. 5

• Install the flash assembly to the body with flash down position, then slide Shoe Setting Plate in the direction of arrow to install.



■Fig. 6

• Wires arrangement
• 2085-1616 should make contact with FPC-A when the flash is lifted.



■Adjustment/check required after repair

☆ : Check required after repair

★ : Adjustment required after repair

ADJUSTMENT/CHECK	Mirror Box Unit		Shutter Unit	Aperture Base Plate Unit	FPC-A Set	FPC-B Set	Penta-Prism Unit	AF Base Plate Unit	Top Cover Unit	XE Tube	Flash Converter PCB Set
	Removed	Replaced	Replaced	Replaced	Replaced	Replaced	Replaced	Replaced	Replaced	Replaced	Replaced
Body back	☆	★	☆	★	☆	☆		★			
Viewfinder back		☆					☆				
Manual set SS		★	★		★						
Aperture preset		☆		★	★						
AE		☆	★		★		☆				★
Flash level		★			★				★	★	★
Pre-flash level					★				★	★	★
Wireless flash level					★				★	★	★
AF	☆	★	★	★	☆	★	★	☆			★
B.C.-lock voltage					★						★

■Preparation Before Adjustment–1

■Equipments required

: Luminance source
: Shutter tester
: EE tester
: 1000mm collimator
: Digital multimeter
: Strobe tester
: Master lens
: Xi series PROGRAM(MAXXUM)FLASH
: DC power supply
: Guide No. adjusting jig
: 2CR5 type power supply adapter
: 2CR5 type power supply adapter for B.C. adjustment
: HIT controller <GAME BOY*>
: ROM PACK for 2092
: Contact jig–C for HIT
: I/F BOX for HIT
: Body signal adapter (with X–contact)
: AEF signal adapter
: X cable
: Body Back gauge
: Flat plate–A
: Dial gauge
: Anvil spacer
: BB adjustment mount
: Reflection paper
: Hexagon wrench (1.5)
: Film (Kodacolor GOLD 100 exposed in a room for more than 1 day)

※GAME BOY is a registered trade mark owned by Nintendo Co. Ltd.

※Jig numbers and models are listed in Tools and Instrument (P. 39).

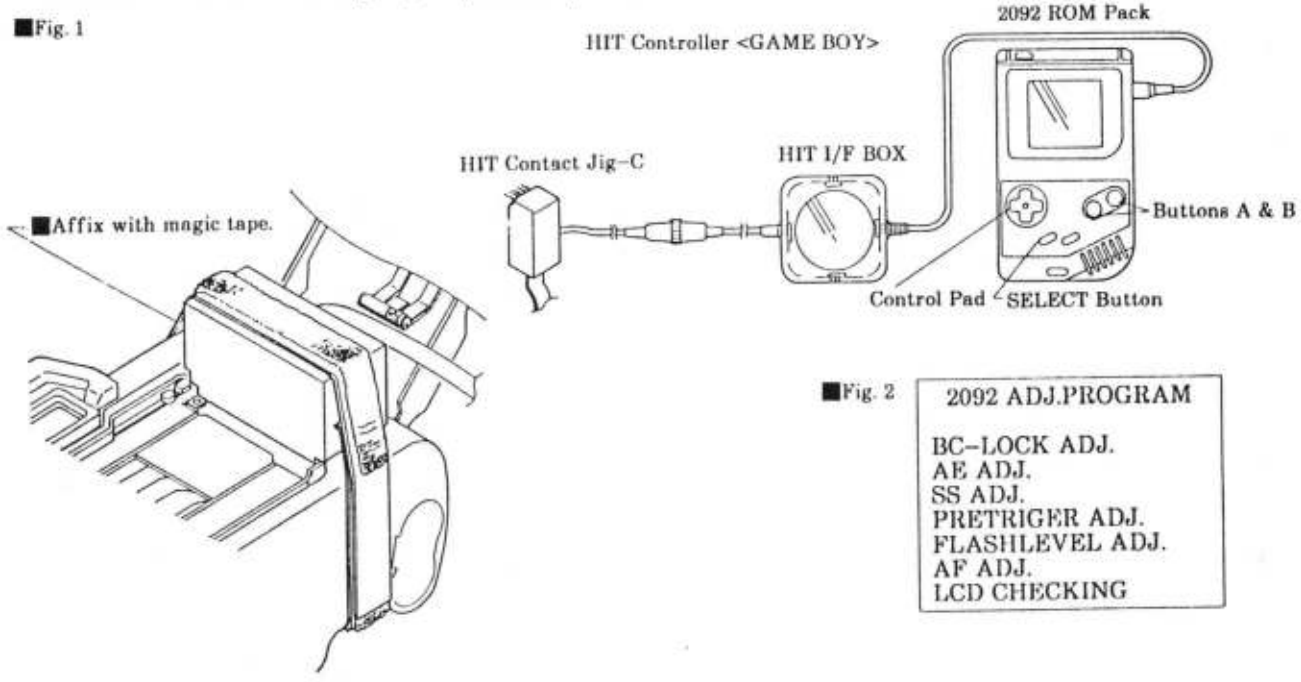
■Instruction for using HIT system

※Make sure that no battery is installed in camera before setting up the HIT system.

1. Set up the equipments as in Fig. 1.
2. Attach HIT Contact Jig–C so its probes contact with the check lands of the camera, then affix them with magic tape.
3. Insert a battery or connect 2CR5–Type Power Supply Adapter to the camera, then turn the camera and HIT Controller on. Main menu appears in LCD (Fig. 2).
4. Select an item using Control Pad so the selected item will appear in a black box. Then press SELECT Button to enter.

※After setting up the equipments, perform "All LCD displays on check" (P. 33) to check for correct connection before starting any adjustment/check.

■Fig. 1



■Fig. 2

2092 ADJ.PROGRAM

BC–LOCK ADJ.
AE ADJ.
SS ADJ.
PRETRIGER ADJ.
FLASHLEVEL ADJ.
AF ADJ.
LCD CHECKING

■Body Back Adjustment– I

■Equipments required

: Body Back Gauge
: Flat Plate–A
: Dial Gauge
: Anvil Spacer
: BB Adjustment Mount

■Procedure

1. Attach Anvil Spacer to Dial Gauge. (Fig. 1)
2. Attach BB Adjustment Mount to camera.
3. Set the Dial Gauge as in Fig. 2, then measure distance between guide rail and BB Adjustment Mount surface as in Fig. 3.
4. Subtract thickness of the BB Adjustment Mount (written on its surface) from the measured value, so the body–back of the camera is obtained.

   Measured value − thickness of BB Adjustment Mount = Body back

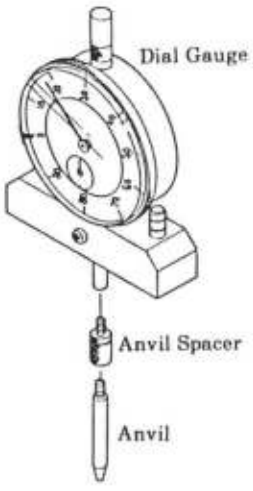
   ※Add or subtract BB adjustment washer so that the body back meets standard below. (See table below for the washer thickness.)
5. After adjustment, perform Body back Adjustment– II (P. 21).

Standard 44.710±0.015

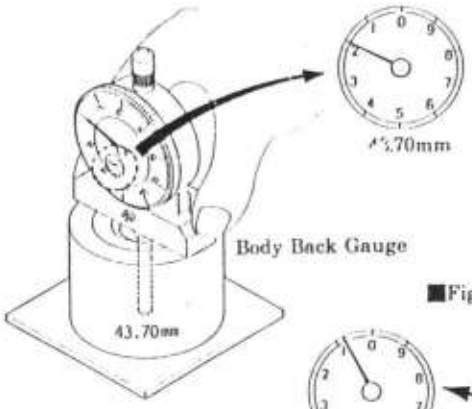
■BB ADJUSTMENT WASEHR

	[illegible]	T=(mm)
A	2092–1014–01	0.05
B	2092–1015–05	0.08
C	2092–1016–05	0.1
D	2092–1017–04	0.12
E	2092–1018–05	0.15
F	2092–1019–05	0.2

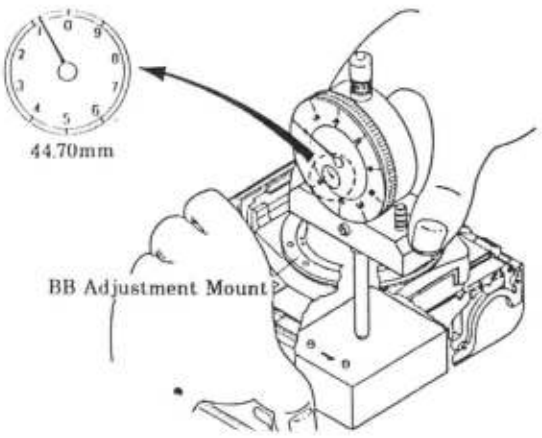
■Fig. 1



■Fig. 2



■Fig. 3



■Body Back Adjustment– II

※Body Back Adjustment– I (P. 20) should be completed before starting.

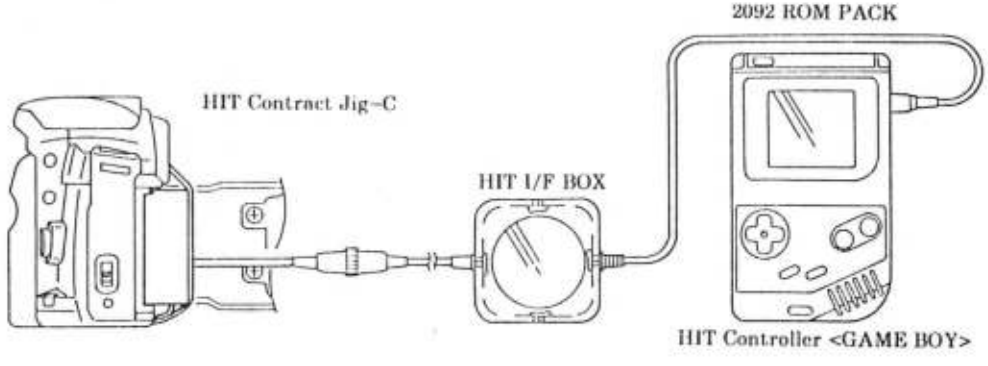
■Equipments required

: HIT Controller <GAME BOY>
: 2092 ROM PACK
: HIT Contact Jig–C
: HIT I/F BOX

■Procedure

1. Set the equipments as in Fig. 1
2. Select "AF ADJ."in the main menu with Control Pad, and press SELECT Button.
3. Select "B.B. ADJ." in AF adjustment menu, and press the SELECT Button.
4. Press Shutter–Release Button partway down.
   ※Previous Body–back value before adjustment (P. 20) is displayed.
5. Select the number (body–back value) using Control Pad. And press upper/lower Control Pad to set the body–back value adjusted in Body Back adjustment - I (P. 20).
   ※The number changes in 0.002–stop increments by each press of the Control Pad.
6. Press SELECT Button.
7. Press Shutter Release Button partway down. "COMPLETE" appears.
8. Press SELECT Button so the displays are replaced with the AF adjustment menu.

■Fig. 1



■Viewfinder Back Adjustment

■Equipments required

: 1000mm collimator

: Master lens

: Hexagon wrench (1.5)

■Procedure

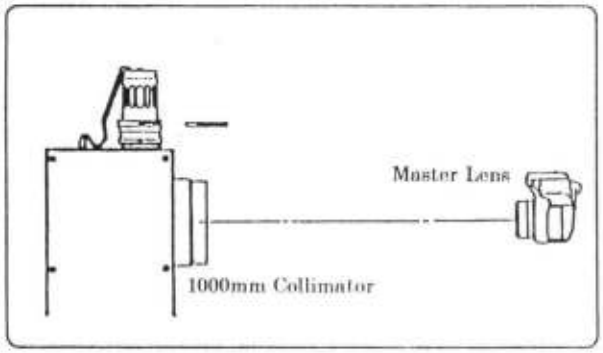
<Check>

1. Set the camera so that the chart is positioned at the center of Viewfinder, then set master lens's Focus Ring to ∞. (Fig. 1)
2. Check that the chart is in focus.
   If not, adjust mirror position as follows.

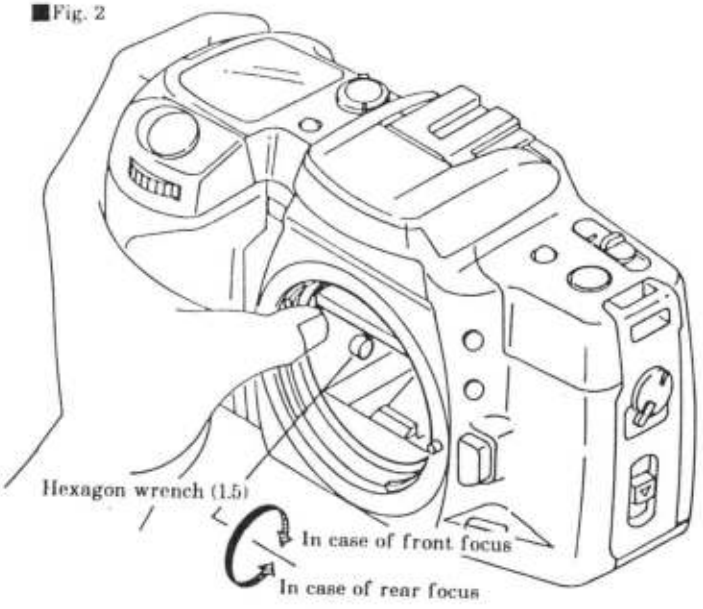
<Adjustment>

1. Remove the lens from the camera.
2. Holding the mirror up with a finger, move VB adjuster up and down so the chart is in focus.
3. Release the shutter several times, then turn the lens' Focus Ring untilit stops at ∞, and check that the chart is in focus.

■Fig. 1



■Fig. 2



■Hold mirror with a finger as shown to adjust viewfinder back.

■Manual SS & X-Sync. Time-Lag Check

■Equipments required

: Shutter tester

: Body signal adapter (with X-contact)

: X-cable

: AEF signal adapter Ⅳ

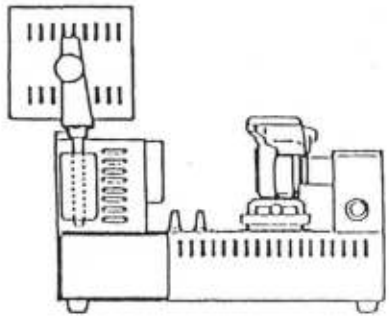
■Manual SS check

1. Set the equipments as in Fig. 1.
2. Check that the reading is within the tolerance in Table-1.

■X-sync. time-lag adjustment

1. Set the camera to Shutter Tester as in Fig. 2.
2. Check that X-sync. time lag is within the standard in Table-2.

■Fig. 1



■Fig. 2

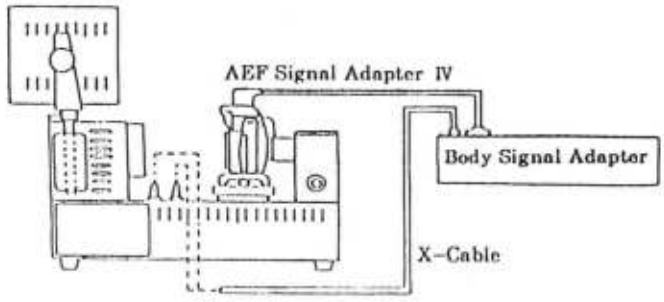


Table-1

SS	Reference value at range-B (ms)	Tolerance at range-B (ms)	Exposure unevenness
1/2000	0.488	0.311 to 0.766	Difference between max. and min. of range-A, -B, -C should be 0.6EV or smaller
1/1000	0.977	0.667 to 1.430	
1/125	7.81	6.34 to 9.62	
1/2	500	467 to 536	

Table-2

SS	Measured item	Standard (ms)
1/90	X-contact delay time	0.4 to 0.9
	From X-contact on to 2nd curtain appearance	2.4 or more

■AE Level Check

■Equipments required

: Luminance source

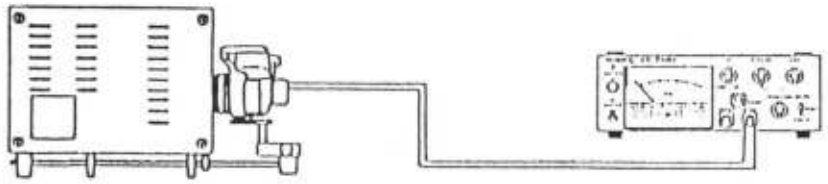
: EE tester

: Master Lens

■Procedure

1. Set the camera and equipments as in Fig. 1.
2. Check that the exposure values meet the tolerance in table.

※When using MODEL L-222 or L-223, apply the value in brackets ( ).



Luminance source:
K value: L3
Camera:
ISO: 100
Exposure mode: See table above.
Aperture: See table above.
Focus mode: M
Master Lens:
Focus Ring: ∞
EE tester:
K value: L3
ASA: 100

Order	Luminance	Exposure mode	Shutter speed	Aperture	Tolerance
1	EV6 (EV5)	A	---	F5.6 (F8)	0±1.0EV
2	EV10 (EV11)				
3	EV15 (EV15)				
4	EV6 (EV5)	P	---	---	
5	EV10 (EV11)				
6	EV15 (EV15)				
7	EV10 (EV11)	S	1/125	---	
8			1/30		

■Aperture Control Check

■Equipments required

: Luminance Source

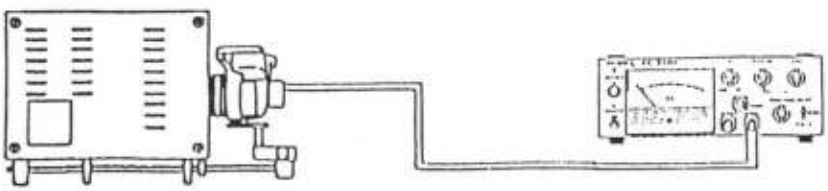
: EE Tester

: Master Lens

■Procedure

1. Set the camera and equipments as in Fig. 1.
2. Release the shutter to check the pointer of EE Tester indicates within 0±0.3EV.

※Reading may be above/below this range depending on the lens' aperture tolerance.



Luminance source:
K value: L3
Luminance: EV11
Camera:
Exposure mode: M
Aperture: F5.6
Shutter speed: Bulb
Focus mode: M
Master Lens:
Focus Ring: ∞
EE tester:
K value: L3
F Value: 5.6
ASA: F
MEAS, CALF : CALF

■Flash Level Check (Using strobe tester <MODEL ST- Ⅲ >)

■Equipments required

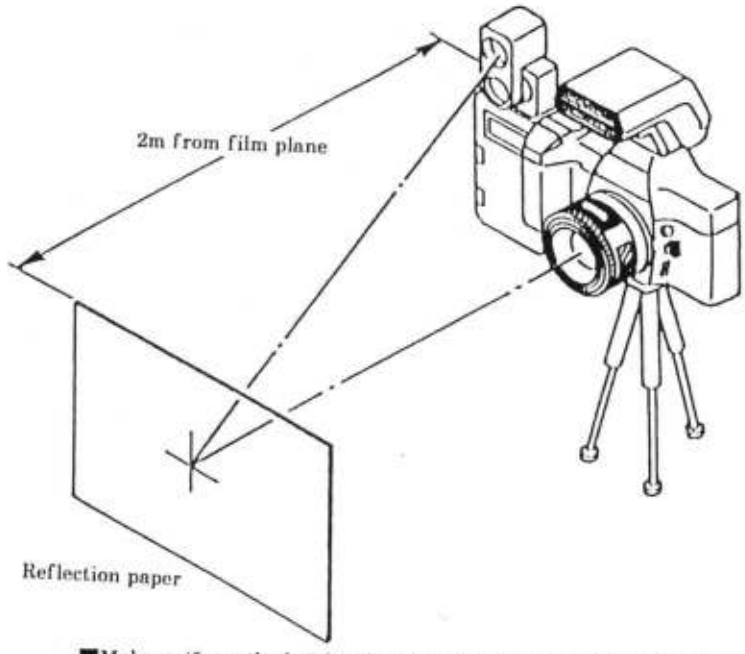
: Strobe tester
: Master lens
: xi-series PROGRAM (MAXXUM) FLASH
: Reflection paper
: Film (Kodacolor Gold 100 exposed in a room for more than 1 day)

■Procedure

※Perform this check in a dark room

1. Set the camera and equipments as in Fig. 1
2. Turn the flash on and check that the flash ready signal glows.
3. Hold Strobe Tester beside the camera (Fig. 1). And looking through viewfinder of Strobe Tester, align eye point in the viewfinder to the center of Reflection Paper.
4. Press Strobe Tester's measuring button to set the tester to the stand by condition ("NON.C" blinks.), then release the shutter.
5. Check that the reading of Strobe Tester is within standard (F5.6±0.5EV).

■Fig. 1



■Make uniform the height of center of reflection paper and optical axis of lens.
■Position the camera so that the center of reflection paper can be seen at the center of viewfinder.

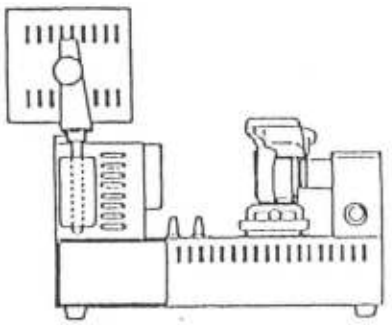
■Manual set SS Adjustment

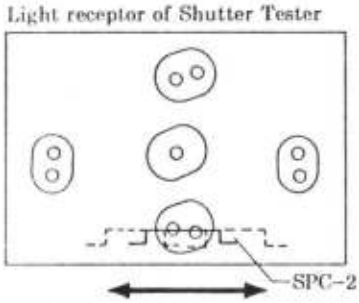
※Perform this adjustment before adjusting aperture preset (P. 27)

■Equipments required
: Shutter Tester
: HIT Controller <GAME BOY>
: 2092 ROM PACK
: HIT Contact jig–C
: HIT I/F BOX

■Procedure
<Check>
1. Set the camera to Shutter Tester. (Fig. 1)
※The camera's SPC–2 Holder may be in the way of Shutter Tester's light receptor. Set the camera off–center so that the light receptor is not obstructed by the SPC–2 Holder.
2. Set shutter speed to 1/2000 sec. and release the shutter several times. Calculate center value of the range–B.
※If the center value is out of standard, perform adjustment as follows.
<Adjustment>
3. Set the equipments as in Fig. 2.
4. Select "SS ADJ." in the main menu with Control Pad, then press SELECT Button.
5. Select "536" using Control Pad.
6. Set the center value (μS) obtained at procedure 2 using Control Pad and Button A or B, then press SELECT Button.
※Pressing upper/lower Control Pad while pressing and holding Button A:8μS
Pressing upper/lower Control Pad while pressing and holding Button B:104μS
7. Press Shutter Release Button partway down. "COMPLETE" appears.
8. Press SELECT Button. Displays are replaced with the main menu.

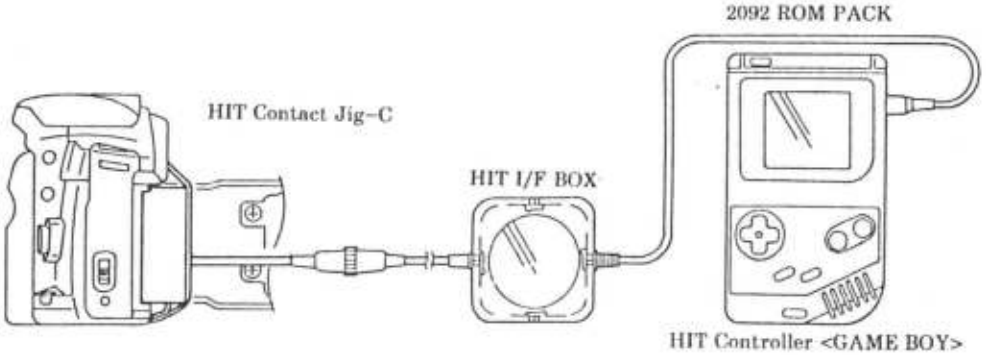
Standard: 0.311 – 0.766





■Set the camera off center so the light receptor is not obstructed by SPC–2 Holder.

■Fig. 2



■Aperture preset Adjustment

※Manual set SS adjustment (P. 26) should have been completed.

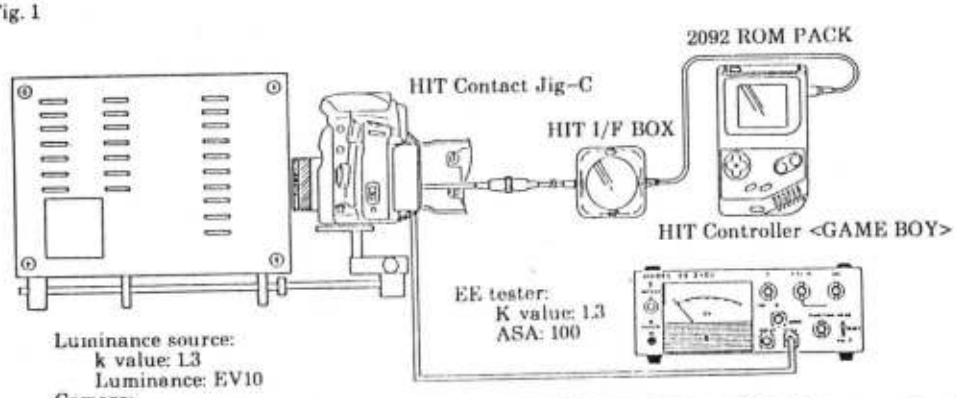
■Equipments required

: Luminance Box
: EE Tester
: Master Lens
: HIT Controller <GAME BOY>
: 2092 ROM PACK
: HIT Contact jig–C
: HIT I/F BOX

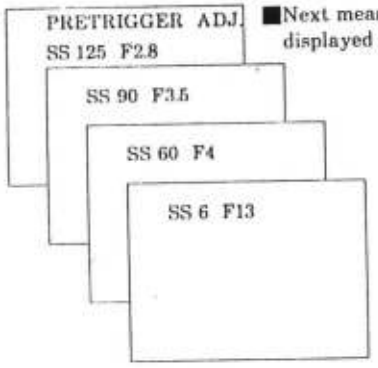
■Procedure

1. Set the equipments as in Fig. 1.
2. Select "PRETRIGGER ADJ." in the main menu with Control Pad, and press SELECT Button.
3. Check that the built–in flash is down, and set Luminance Source to EV10, then press SELECT Button to enter.
4. Press Shutter–Release Button partway down. Shutter speed and aperture displays appear in both camera's and HIT controller's LCD. Check that they are the same.
5. Release the shutter and see whether the value in EE Tester is 0.35EV or more, or less than 0.35EV.
   ※If the value is –0.35EV or more, select "–0.35EV OR OVER", if it is less than –0.35EV, select "UNDER –0.35EV" using Control Pad, and press SELECT Button.
6. Release the shutter. Check that value in EE tester is changed by 0.5EV from the value obtained at procedure–5. If so, select "YES", and press SELECT Button. Displays are replaced with next measuring point.
   ※If the value is not changed by 0.5EV, select "NO", and press SELECT Button. Then repeat procedure–6 until you can select "YES".
7. Repeat procedure 4, 5, and 6 for four of the measuring points. (Fig. 2)
8. "COMPLETE" appears when adjustment is completed.
9. Press SELECT Button. Displays are replaced with the main menu.

■Fig. 1



■Fig. 2



■Next measuring point is automatically displayed after the procedure 6.

■AE Adjustment

■Equipments required

: Luminance Source
: Master Lens
: HIT Controller <GAME BOY>
: 2092 ROM PACK
: HIT Contact Jig–C
: HIT I/F BOX

■Procedure

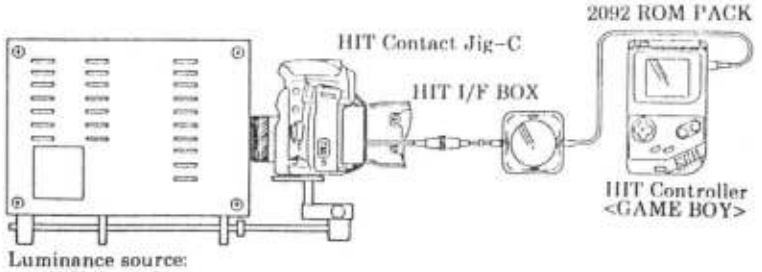
<Adjustment>

1. Set the equipments as in Fig. 1
2. Select "AE ADJ." in main menu using Control Pad, and press SELECT Button.
3. Select "AE ADJ." in AE adjustment menu using Control Pad, and press SELECT Button.
4. Set Luminance Source to EV6, press SELECT Button.
   ※Panorama model –600 should be set to normal frame.
5. Press Shutter–Release Button partway down.
6. Set Luminance Source to EV15, press SELECT Button.
7. Press Shutter–Release Button partway down.
8. Select panorama or normal model as follows.
   ※For –600 model:
   ①Select "PANORAMA MODEL", and press SELECT Button.
   ②Set Luminance Source to EV15, press SELECT Button.
   ③Set the camera to panorama frame.
   ④Press Shutter–Release Button partway down. "Complete" appears when adjustment is completed.
   ※For other models
   ①Select "NORMAL MODEL", and press SELECT Button. "COMPLETE" appears when adjustment is completed.
9. Press SELECT Button. Displays are replaced with the AE adjustment menu.

<Check>

10. Select AE CHECK in the AE adjustment menu with Control Pad, and press SELECT Button.
11. Set luminance source to EV10.
12. Press Shutter–Release Button partway down. Displays as Fig. 2 appears.
13. Check that value in each cell is within EV±0.3. (Fig. 2)
    ※Also check with EV6 and EV15.
14. Press SELECT Button. Displays are replaced with the AE adjustment menu.

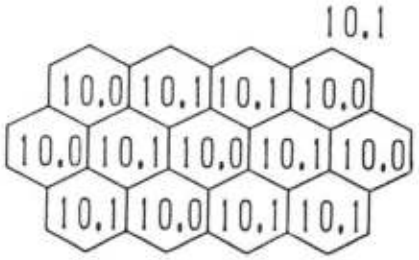
■Fig. 1



Luminance source:
K Value: 1.3
Luminance: EV 6, 10, 15
Camera:
Focus mode: M
Master Lens:
Focus ring: ∞

■Fig. 2

Example: EV10



■Flash Level Adjustment

■Equipments required

: Luminance Source
: Master Lens
: HIT Controller <GAME BOY>
: HIT Contact Jig–C
: HIT I/F BOX
: 2092 ROM PACK
: Reflection Paper

■Procedure

<Adjustment>

1. Set the equipments as in Fig. 1.
2. Select "FLASH LEVEL ADJ." in main menu with Control Pad, press SELECT Button.
3. Select "FLASH LEVEL ADJ." in flash level adjustment menu with Control Pad, press SELECT Button.
4. Set Luminance Source to EV10. And press SELECT Button.
5. Press and hold Shutter–Release Button partway down until "COMPLETE" appears. Shutter is automatically released five times before the "COMPLETE" appears.
6. Press SELECT Button. Displays are replaced with the flash level adjustment menu.

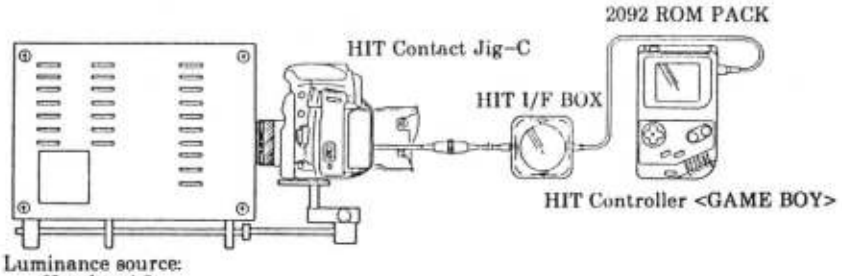
<Check>

7. Select "FLASH LEVEL CHECK" in the flash level adjustment menu using Control Pad, and press SELECT Button.
8. Set Luminance Source to EV10. Press SELECT Button.
9. Press and hold Shutter–Release Button partway down until "COMPLETE" appears. Shutter is automatically released three times before the "COMPLETE" appears.

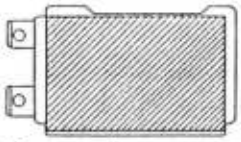
※Check that the reading at either of ISO 50, 100 and 400 is within ±0.4EV. (Fig. 2)

10. Press SELECT Button. Displays are replaced with the flash adjustment menu.

■Fig. 1



Luminance source:
K value: 1.3
Luminance: See above.
Camera:
Focus mode: M
Master Lens:
Focus ring: ∞



■Attach Reflection paper to unnecessary pressure plate to be discarded. And hold them at the camera back on film plane.

■Fig. 2

FLASH LEVEL CHECK	
COMPLETE	
50	–0.18EV
100	–0.18EV
400	–0.18EV
MENU	

■Pre-Flash Level Adjustment

■Equipments required

: Strobe Tester
: Guide No. Adjusting Jig.
: HIT Controller <GAME BOY>
: HIT Contact jig-C
: HIT I/F box
: 2092 ROM PACK

■Procedure

<Check>

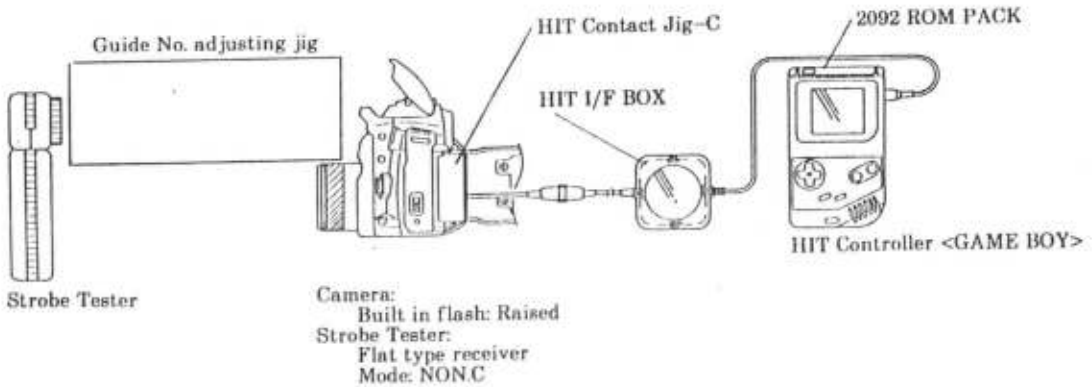
1. Set the equipments as in Fig. 1.
2. Select "FLASH LEVEL ADJ." in the main menu using Control Pad, and press SELECT Button.
3. Select "PREFIRE ADJ." in flash level adjustment menu using Control Pad, and press SELECT Button.
4. Press Shutter-Release Button partway down.
5. Select "FIRE" with Control Pad, and press SELECT Button.
6. Press Shutter-Release Button partway down so built-in flash fires. Check that reading in Strobe Tester is within standard range.
   ※If not, perform adjustment as follows.

<Check>

7. Press Control Pad at the right or left to adjust flash output.
   To increase flash output: Press the right of Control Pad.
   To decrease flash output: Press the left of Control Pad.
8. Repeat procedure 5, 6, and 7 until the reading meets the standard.
9. Select "MENU" with Control Pad and press SELECT Button. Displays are replaced with the flash level adjustment menu.

Standard range: F0.8+0.2 to F11+0.2

■Fig. 1



■Wireless Flash Level Adjustment

■Equipments required

: Strobe tester
: Guide No. adjusting jig
: HIT Controller <GAME BOY>
: HIT Contact Jig–C
: HIT I/F BOX
: 2092 ROM PACK

■Procedure

<Check>

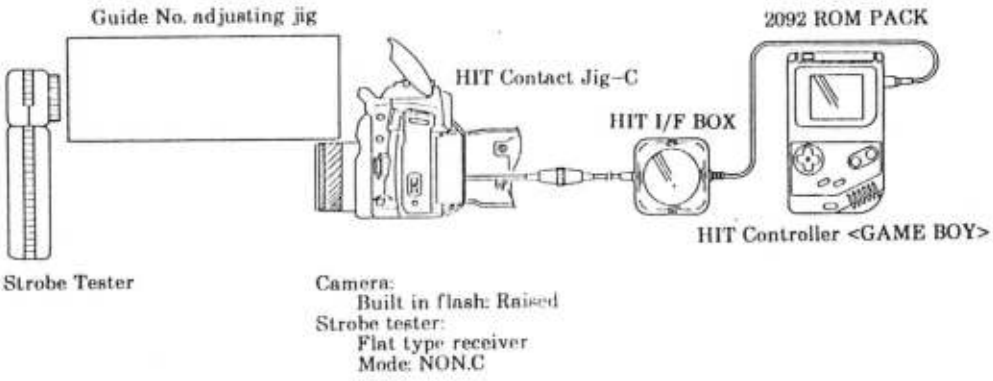
1. Set the equipments as in Fig. 1.
2. Select "FLASH LEVEL ADJ." in main menu using Control Pad, and press SELECT Button.
3. Select "W–LESSFIRE ADJ." in flash level adjustment menu using Control Pad, and press SELECT Button.
4. Press Shutter Release Button partway down.
5. Select "FIRE" with Control Pad, and press SELECT Button.
6. Press Shutter–Release Button partway down so that the built–in flash fires. Check that reading in Strobe Tester is within standard range.
   ※If not, perform adjustment as follows.

<Adjustment>

7. Press the right or left of Control Pad to adjust flash output.
   To increase flash output: Press the right of Control Pad.
   To decrease flash output: Press the left of Control Pad.
8. Repeat procedure 5, 6, and 7 until the reading meets the standard.
9. Select "MENU" with Control Pad, and press SELECT Button. Displays are replaced with the flash level adjustment menu.

Standard F2.8 to F4

■Fig. 1



■B.C. Lock Voltage Adjustment

■Equipments required

: DC Power Supply
: Digital Multimeter
: 2CR5 Type Power Supply Adapter for B.C. adjustment
: HIT Controller <GAME BOY>
: HIT Contance Jig–C
: HIT I/F BOX
: 2092 ROM PACK

■Procedure

<Adjustment>

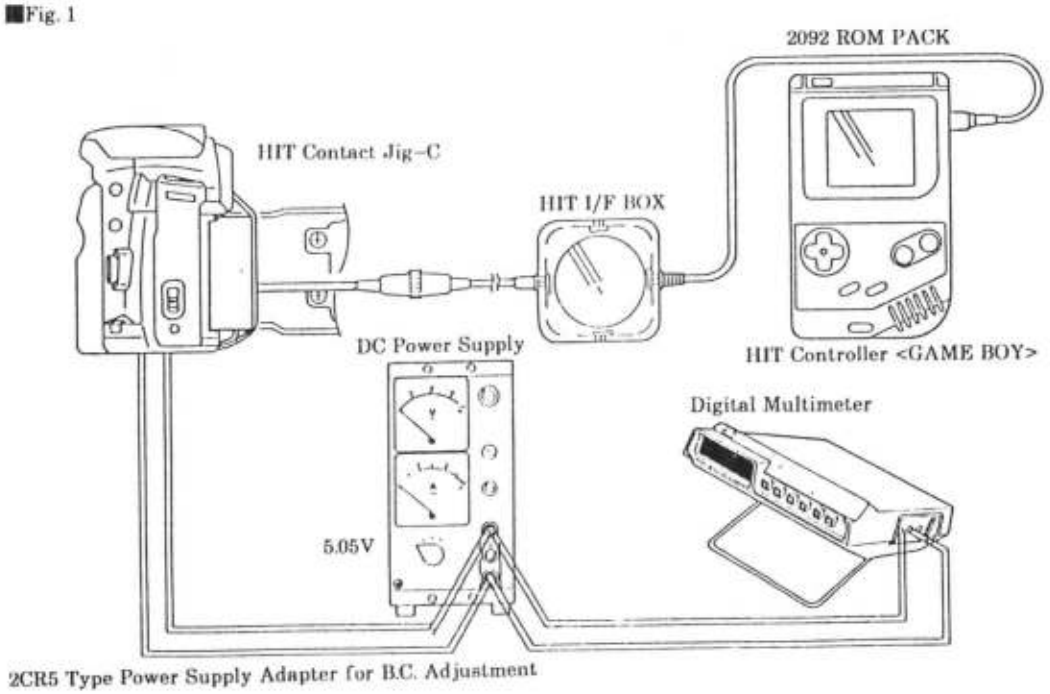
1. Set the equipments as in Fig. 1.
2. Select "BC–LOCK ADJ."in main menu using Control Pad, and press SELECT Button.
3. Press SELECT Button, then Shutter–Release Button partway down.
4. Set DC Power Supply to 5.05V, and press SELECT Button.
5. Press Shutter–Release Button partway down twice. "COMPLETE" appears.
6. Select "MENU" with Control Pad, and press SELECT Button. Displays are replaced with main menu.

<Check>

7. Check that B.C. lock operates at the standard voltage as below.

Standard voltage: 4.75V

■Fig. 1



■All LCD Displays On Check

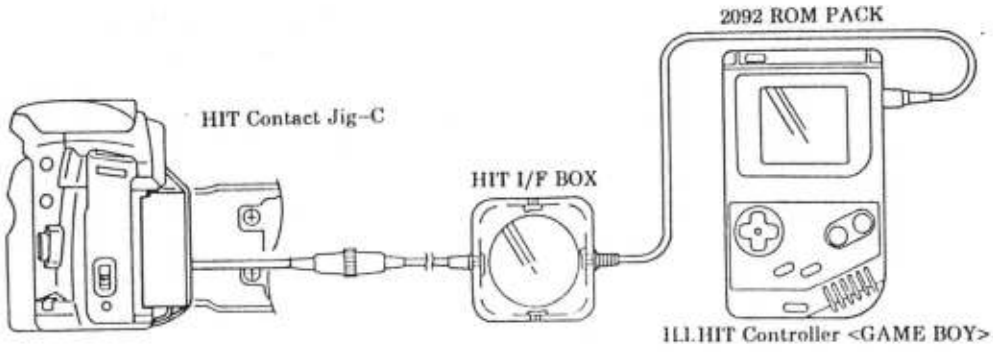
■Equipments required

: HIT Controller <GAME BOY>
: HIT Contaxt Jig–C
: HIT I/F BOX
: 2092 ROM PACK

■Procedure

1. Set the equipments as in Fig. 1.
2. Select "LCD CHECKING" in main menu using Control Pad, and press SELECT Button.
3. Press Shutter–Release Button partway down. All displays appear in Body Data Panel.
4. "COMPLETE" appears in LCD of HIT Controller.
5. Press SELECT Button so that displays are replaced with the main menu.

■Fig. 1



■Preparation Before Adjustment–2 (AF adjustment)

※After replacing FPC–A or FPC–B, or parts attached to mirror or mirror box, and when users point out poor focus, be sure to perform adjustment ① (P. 35) to ③ (P. 37).

■Items to be confirmed before AF adjustment

※Check the following items before performing AF adjustment.

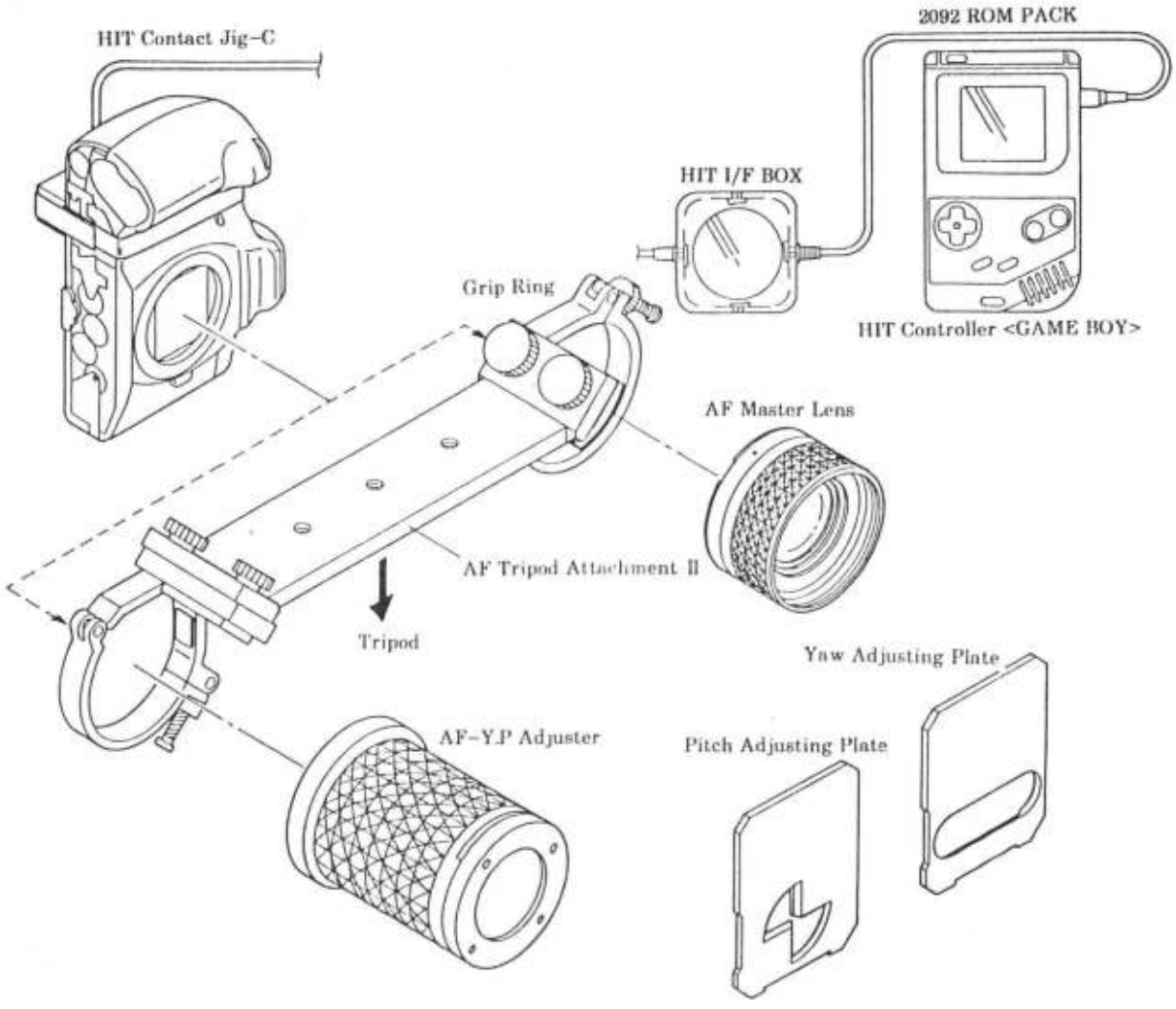
1. Body back and Viewfinder back should have been checked and adjusted.
2. All external parts except for Bottom Cover Unit should be installed.
3. When CCD sensor module is out of position after replacing FPC–B, tighten three AF adjusting screws (2089–5051) until they stop, then evenly loosen them by two turns.

■Equipments required

※See "Tools & Instruments (P. 39) for model and jig–numbers.

: 1000mm collimator
: AF Master lens
: AF Chart– Ⅶ for 2085
(See P. 29 of 2085 Service Manual.)
: AF Chart– Ⅶ
: HIT controller <GAME BOY>
: 2092 ROM PACK
: HIT Contact Jig–C
: HIT I/F BOX
: AF–Y.P adjuster
: AF tripod attachment Ⅱ
: Grip ring
: Hexagon bar wrench or
Hexagon screwdriver
: Flood lamp
(having color temperature of 2800°K)

■Fig. 1



①AF Area Adjustment

■Procedure

<Check>

1. Set up HIT system, and set camera and AF chart– Ⅷ as in Fig. 1.
2. Select "AF ADJ." in main menu using Control Pad, and press SELECT Button.
3. Select "AREA ADJ." in AF adjustment menu using Control Pad, and press SELECT Button.
4. Press Shutter–Release Button partway down so wavy lines and value appear in display of HIT Controller. Check that the wavy lines are like the one in Fig. 2 and the value is within standard below. (Fig. 2)

※If not, perform adjustment as follows.

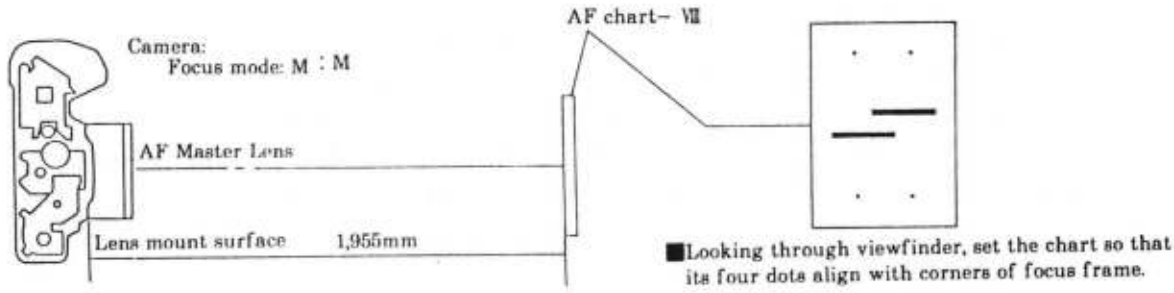
<Adjustment>

5. Press SELECT Button. Displays are replaced with AF adjustment menu.

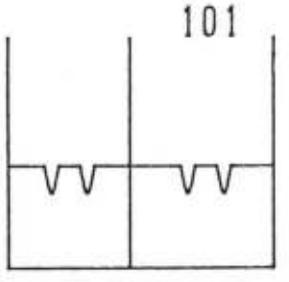
※Shutter cannot be released with the displays as Fig. 2.

6. Set the camera's shutter speed to bulb, then adjust Sub Mirror position using Hexagon Bar Wrench (1.5) as in Fig. 3.
7. Repeat procedure 3 and 4 until the value is within the standard.
8. Press SELECT Button. Displays are replaced with the AF adjustment menu.

■Fig. 1

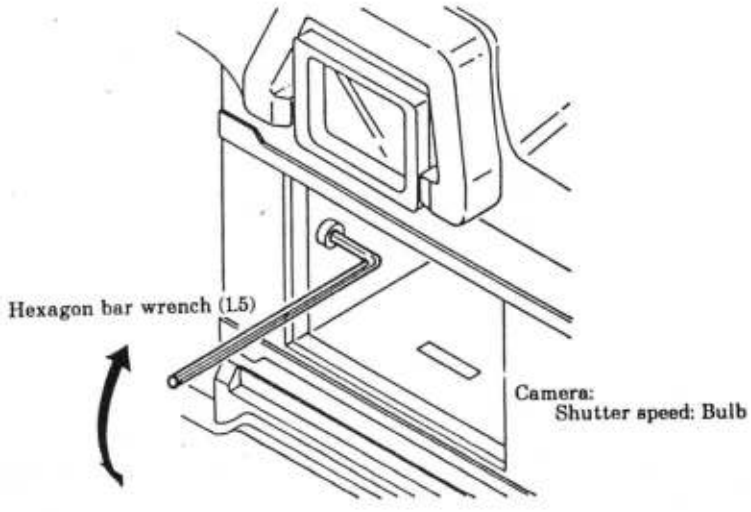

AF chart– Ⅷ
Camera:
Focus mode: M : M
AF Master Lens
Lens mount surface
1,955mm
■Looking through viewfinder, set the chart so that its four dots align with corners of focus frame.

■Fig. 2



Standard 100±4

■Fig. 3



②Pitch, Yaw Adjustment

※Light up the chart with a flood lamp during Pitch, Yaw adjustment.

■Procedure

■Pitch adjustment

1. Insert Pitch Adjusting Plate to Y.P Adjuster. (F)
2. Select "AF ADJ." in main menu using Control Pad, and press SELECT Button.
3. Select "PITCH,YAW ADJ." in AF Adjustment menu with Control Pad, and press SELECT Button.
4. Press Shutter-Release Button partway down.
5. Turn Pitch Adjusting Screw as in Fig. 4 so that the value in the HIT controller display is within standard range (0090–0110).

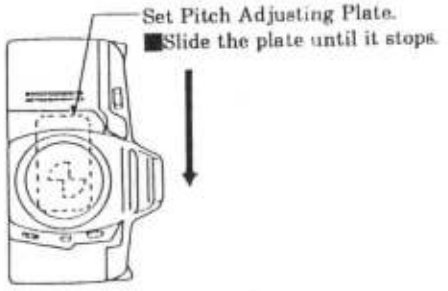
■Yaw adjustment

6. Insert Yaw Adjusting Plate to Y.P Adjuster. (Fig. 3)
7. Turn Yaw Adjusting Screw as in Fig. 4 so that the value in the HIT Controller display is within standard range (0083–0110).
8. Press SELECT Button. The displays are replaced with AF adjustment menu.

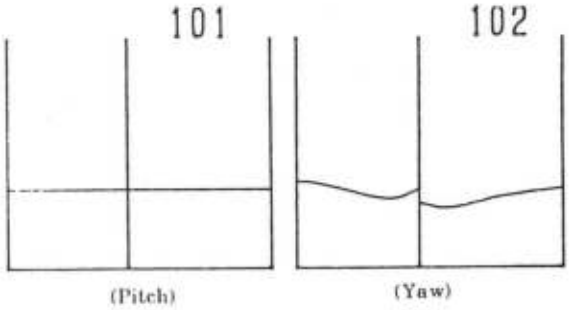
■Check after adjustment

9. Check AF area referring to page 35. If required, perform "① AF area adjustment" and "② Pitch, Yaw adjustment" repeatedly until all readings meet standards.

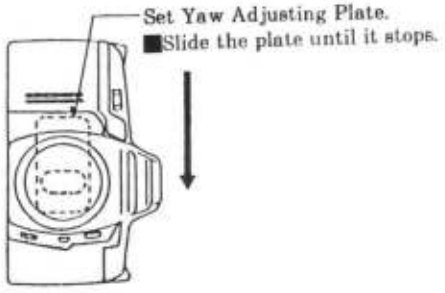
■Fig. 1



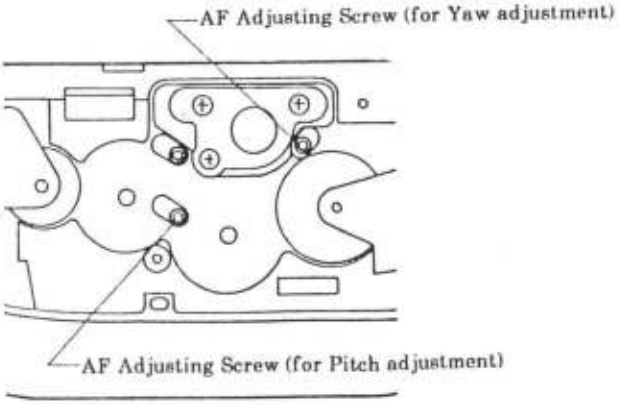
■Fig. 2



■Fig. 3



■Fig. 4



③EZ Adjustment

■Procedure

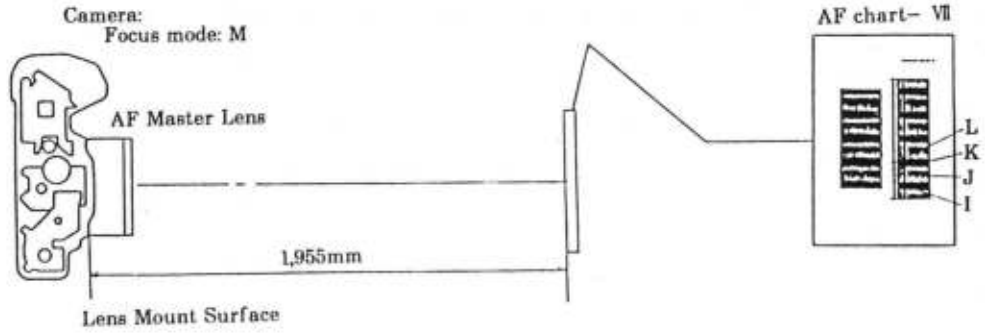
<Adjustment>

1. Set up the HIT system, and set camera and AF chart– Ⅶ as in Fig. 1.
2. Select "AF ADJ." in main menu using Control Pad, and press SELECT Button.
3. Select "EZ ADJ." in AF adjustment menu using Control Pad, and press SELECT Button.
4. Looking through viewfinder, align the left of focus frame (Fig. 2) with measuring point I. Then press SELECT Button.
5. Press and hold Shutter–Release Button partway down until the next measuring point appears in the display.
6. Repeat procedure 4 and 5 for each measuring point of I to L. "COMPLETE" appears when all measuring points are adjusted.
7. Press SELECT Button. Displays are replaced with the AF adjustment menu.

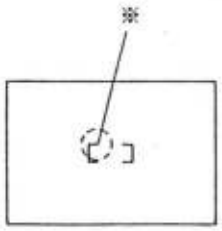
<Check>

8. Select "EZ CHECK" in the AF adjustment menu using Control Pad, and press SELECT Button.
9. Looking through viewfinder, align the left of focus frame (Fig. 2) with measuring point K.
10. Press Shutter–Release Button partway down.
    ※Check that the displayed value is within standard range (±30). (Fig. 3).
11. Press SELECT Button. Displays are replaced with the AF adjustment menu.

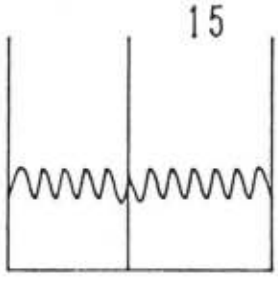
■Fig. 1



■Fig. 2



■Fig. 3



■Error code on HIT Controller

■Error code list

Item	No.	Meaning	Cause
B.C. lock voltage adjustment	10	A/D conversion value at Battery check is incorrect.	• Voltage is wrongly set. • Resistance of Power Supply Adapter is defective. • Resistor for B.C. dummy current is defective, triggering failure
AE adjustment	20	Picture frame is wrongly set.	• Picture frame is wrongly set. • SPANO is defective.
	21	Little difference between EV6 and EV15 is detected.	• Luminance source is wrongly set. • SPC is disconnected.
Flash level adjustment	30	Flash level is incorrect.	• Luminance source is wrongly set. • SPC is disconnected. • Reflection paper isn't set. • Aperture mechanism is defective.
Pre-flash level adjustment	40	SFLD isn't turn ON.	• Flash remains down. • SFLD is disconnected.
Wireless flash level adjustment			
Aperture preset adjustment	50	Aperture preset is out of adjustable range.	• Aperture Base Plate Unit is defective.
EZ adjustment	61	Contrast is low.	• Chart is out of position. • Chart is too close/far. • CCD is defective.

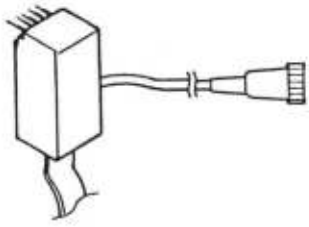
■Tools & Instruments

■Luminance source
<MODEL L-2101, L-2111, *L-222, *L-223>
■EE tester <MODEL EE-2101, EE-2111>
■Shutter tester <MODEL S-2201, S-2101>
■1000mm collimator <MODEL RC- Ⅲ ,* Ⅱ ,* Ⅰ >
■Digital multimeter <MODEL 2506A, 2508>
■DC power supply <*524B, *524C, MTR18-2>
■Strobe tester <MODEL ST Ⅲ >
■xi-series PROGRAM(MAXXUM)FLASH
■Master Lens <2072-0001-75>
■AF Master Lens <2072-0006-75>
■HIT Controller (GAME BOY) <7981-5001-01>
■ROM PACK for 2092 <7981-5001-56>
■Contact Jig-C for HIT <7981-5001-13>
■I/F Box for HiT <7981-5001-32>
■AF Chart- Ⅷ <2085-0001-75>
■AF Chart- Ⅶ for 2085 <2082-0003-75> ※
■Body Signal Adapter Ⅳ (With X-contact)
■AEF Signal Adapter <7981-2014-34>
■X Cable <7981-2014-16>
■Guide No. adjusting jig <2082-0005-75>
■Motor axis spanner <2078-0421-75>
■2CR5 type power supply adapter
<7981-1018-51>
■2CR5 type power supply adapter for
B.C. adjustment <7981-2203-02>
■AF tripod attachment <2072-0003-76>
■AF-Y.P adjuster <2076-0006-75>
■Grip ring <7983-9004-01>
■Mirror remover <2071-5806-75>
■Mirror positioner <2072-5151-75>
■BB adjustment mount <7982-2007-01>
■Anvil spacer <7982-2001-31>
■Body back flat plate-A <7982-2004-01>
■Body back gauge <7982-2002-01>
■Dial gauge <7982-2001-11>
■Hexagon bar wrench (1.5)
■Hexagon screwdriver <7983-1040-01>
■Reflection paper <7981-3001-51>
■Flood lamp
(having color temperature of 2800°K.)
■Film (Kodacolor GOLD 100, exposed in a room for more than one day)

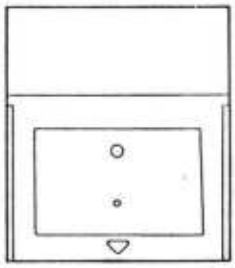
(*Production ceased)
※Use AF Chart- Ⅶ modified for 2085.
See P. 29 of 2085 Service Manual.

Anvil spacer <7982-2001-31>

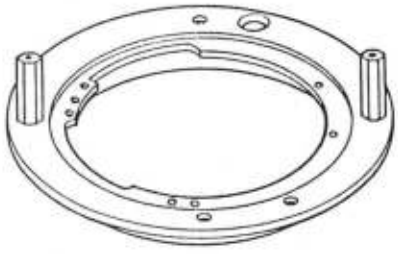
Contact Jig-C for HIT
<7981-5001-13>



ROM PACK for 2092
<7981-5001-56>



BB adjustment mount <7982-2007-01>



■Subsidiary materials

■Grease
: G-75<7984-1075-01>
: G-85<7984-1085-01>

■Adhesive
: B-10<7984-2010-01>
: B-50<7984-2050-01>
: B-60<7984-2060-01>

Trouble shooting chart

1. Introduction

Use this chart when camera has some trouble. If any accessories are attached to the camera, check the operation with the accessories attached and detached to see whether the camera itself is defective or not.

2. How to use the chart

(1) Trouble finding chart

First, follow this chart to see the camera's trouble symptom.

And use this as the index for "Cause finding chart".

(2) Cause finding chart

See trouble symptom found with the trouble finding chart and find its cause.

Listed are relevant elements, switches, connectors or wires that are considered to be defective.

※Trouble causes mentioned here are only main ones. Make overall investigation to find other causes.

3. Note

(1) To check the voltage, use digital multimeter or the one with input impedance 10MΩ or over.

(2) To check the conductivity, use circuit tester of 3V or less.

(3) Mainly check for soldering at wires or elements, and switch operation since electrical elements (IC, diode, transistor, resistor, or condenser) seldom cause the trouble.

(4) During checking, do not press elements or pull wires strongly.

(5) When checking the voltage at the patterns where switch operates, be careful not to prevent switch operation nor to scratch the pattern.

(6) Before removing electrical elements, be sure to remove power supply adapter.

(7) Before soldering, always clean the tip of soldering iron.

Then use soldering iron at the temperature of 290 to 340 ℃ . If higher, solder quickly.

(8) When handling ICs, be sure to avoid static electricity.

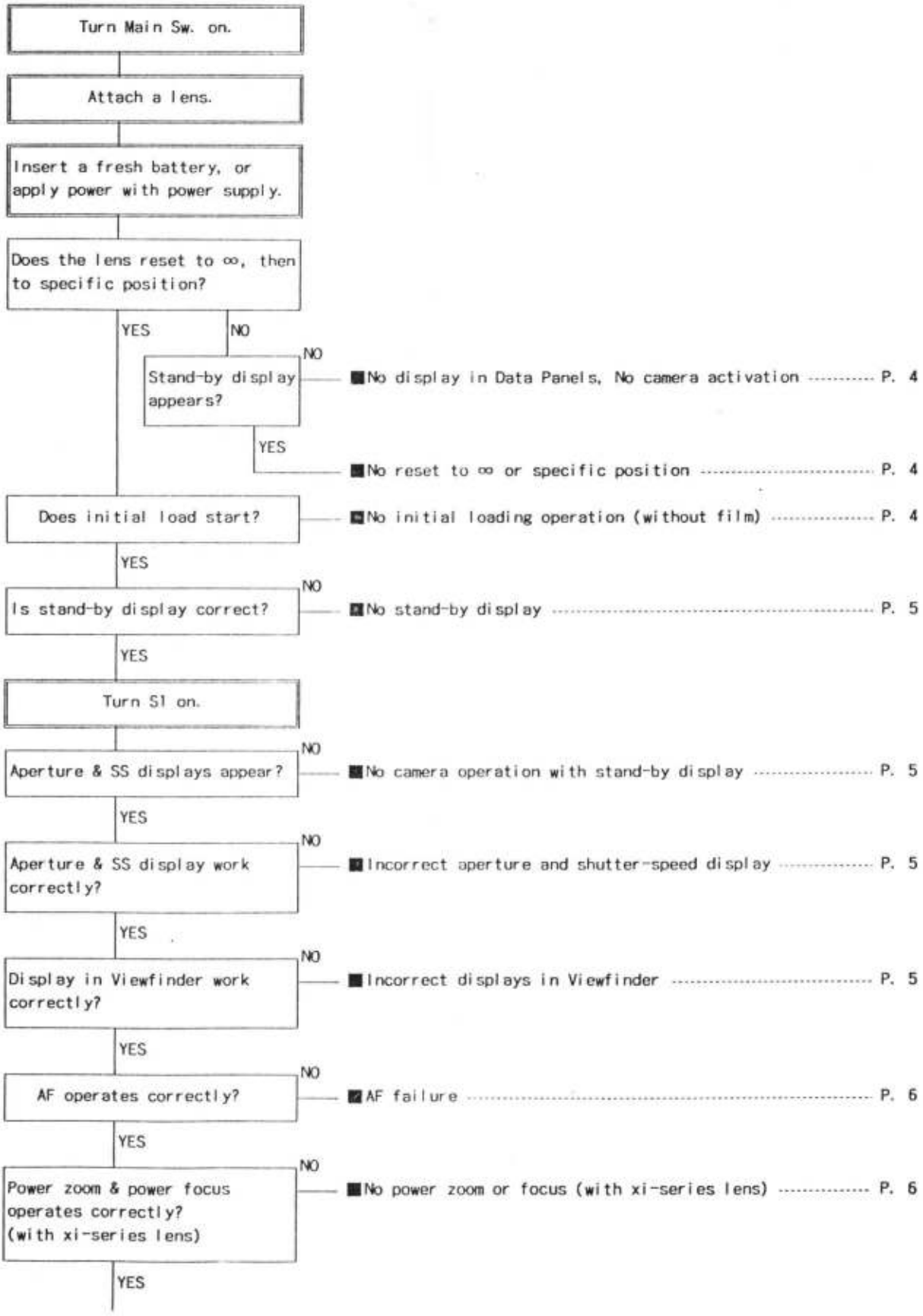
(9) When using DC power supply, set it at 5.8V, 2.5A.

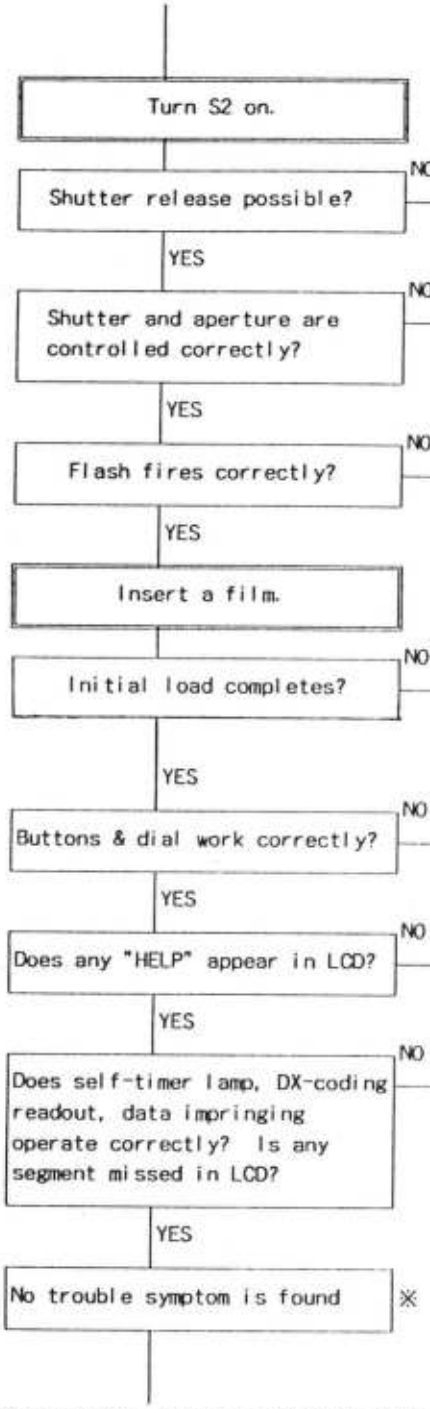
CONTENTS

■Trouble finding chart ····· P. 2 – 3
■Cause finding chart ····· P. 4 – 9
■Electrical elements on FPC–A ····· P. 10
■Electrical elements location ····· P. 11– 13

Trouble-finding chart

Follow the chart below to see what is the problem.
※If "HELP" appears in Body Data Panel while following this chart, see "HELP display appears"(P. 9).


Turn Main Sw. on.
Attach a lens.
Insert a fresh battery, or apply power with power supply.
Does the lens reset to ∞, then to specific position?
YES
NO
Stand-by display appears?
NO
■No display in Data Panels, No camera activation ..... P. 4
YES
■No reset to ∞ or specific position ..... P. 4
Does initial load start?
■No initial loading operation (without film) ..... P. 4
YES
Is stand-by display correct?
NO
■No stand-by display ..... P. 5
YES
Turn S1 on.
Aperture & SS displays appear?
NO
■No camera operation with stand-by display ..... P. 5
YES
Aperture & SS display work correctly?
NO
■Incorrect aperture and shutter-speed display ..... P. 5
YES
Display in Viewfinder work correctly?
NO
■Incorrect displays in Viewfinder ..... P. 5
YES
AF operates correctly?
NO
■AF failure ..... P. 6
YES
Power zoom & power focus operates correctly? (with xi-series lens)
NO
■No power zoom or focus (with xi-series lens) ..... P. 6
YES



■Shutter operation failure ..... P. 6

■Incorrect shutter speed and aperture setting ..... P. 6

■Flash operation failure ..... P. 7

■Film transport failure ..... P. 7

■Defective buttons & dial operation ..... P. 8

■HELP display appears. ..... P. 9

■Others ..... P. 9

※If trouble symptom cannot be found with this chart,
- Using user's battery and lens, release the shutter about 100 times with a film loaded.
- With camera's lens mount side up or buttom side up, release the shutter to confirm the symptom pointed out by user.

Cause-finding chart

■No display in Data Panels, No camera activation

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Nothing appears in Body and Viewfinder Data Panels, and camera doesn't activate.	(FPC-A) C4,C6,C7,C9,C8,C18,R1,R2,X1 X2	SBAT SM	Battery contacts (+)(-) CN-FC (2)(8)(9)(11)
Low battery symbol blinks, and camera doesn't activate.	(FPC-A) C3,C11,R3,R7,R25,Q3		

■No initial loading operation (without film)

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Initial load operation doesn't start by battery installation (With main Sw. set to on, no film loaded)			W17 Winding motor (+) W18 Winding motor (-)

■No reset to ∞ or specific position

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Lens ∞ reset or specific position reset doesn't operate when any lens is attached. Focus mode remains at M.FOCUS. (AF doesn't operate.)	<FPC-A> R6	SLLK	CN-BL (1) - (8) W10 (Gray) W11 (Black) AF motor (+)(-)
Lens ∞ reset or specific position reset doesn't operate when an xi-lens is attached. Focus mode remains at M.FOCUS. (AF doesn't operate.)	<FPC-A> R9,R8,Q1,Q2,		CN-BL (3)

■No stand-by display

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
No display in Body Data Panel. (Others operate correctly)	(FPC-A) C12,C13,C14,C15,R21		
Shutter speed and aperture display appear, and AF starts operating. (Flash charge starts if it is up.)		S1	
Self-timer indicator appears, and camera doesn't operate.		SELF	
Red-eye reduction indicator appears, and camera doesn't operate.		SPFL	
Only "P" appears, and camera doesn't operate.		SPGM	
Film rewind starts, then "0" in frame counter with blinking film cartridge mark appear.		SREW	

■No camera operation with stand-by display

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
No camera activation with stand-by display on Body Data Panel.		S1	CN-C (3)
AF motor runs idle with stand-by display.	(FPC-A) C25		

■Incorrect aperture and shutter-speed display

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Aperture and shutter-speed displays flicker.	(FPC-A) C3,C4		

■Incorrect displays in Viewfinder

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Back light of Viewfinder Data Panel doesn't light.	(FPC-A) R18		CN-K (19)

■AF failure

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Lens moves in small steps.	(FPC-A) C22,C23,R17		CN-G(1)(2)(3) CN-FC (7)
Focus isn't confirmed. Lens keeps scanning for low-contrast.	(FPC-A) D2		CN-B (1)(3)(7)(8)

■No power zoom or focus (with xi-series lens)

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Manual power zoom and power focus are impossible.			CN-BL(1)

■Shutter operation failure

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Shutter release is impossible		S2	W17 Winding motor (+) W18 Winding motor (-)

■Incorrect shutter speed or aperture setting

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
No slit shutter			W4 (Blue) W6 (Yellow)
Incorrect shutter speed of 1/60 sec. or faster			W5 (Brown)
Aperture always set to fully-open position	(FPC-A) C24		

■Flash operation failure

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Flash doesn't fire			W25 (Yellow) W28 (Orange) W29 (Blue) W30 (Yellow) W31 (Gray) W41 W42 CN-FC (6)(4)
Pre-flash fires, but main flash doesn't fire.	(FPC-A) R5		W7 (Purple) W8 (Black)
Flash output is less than required.	(FPC-A) R10		
Flash always fully fires.	(FPC-A) C19		W1
Dedicated flash doesn't fire. (Others operate correctly.)			W21 (Purple) W24 (Black)
Dedicated flash doesn't fire, and camera doesn't operate.			W23 (Orange)
Flash doesn't fire by manual fill-flash.		SW1	
Flash charge doesn't start.		SW11	

■Film transport failure

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Initial load doesn't start.		SW2	CN-1 (3)
Initial load always fails.	(FPC-A) Q1, D3		CN-1 (1) - (4)

■Defective buttons & dial operation

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Focus Mode Button doesn't work.		SRAF SAF-M	CN-D (6) CN-M (6) W9 (Brown)
Aperture Button doesn't work.		SAV	W19 (Orange) W20 (Black)
Rewind Button doesn't work.		SREW	CN-D (4)(5)
Display doesn't change according to Control Dial.			CN-DL (1)－(5)
Exposure Compensation Button doesn't work.		SCMR	CN-N (3)(4)
Mode Button doesn't work.		SMODE	
Drive-Mode/Self-Timer Button doesn't work.		SDRV	
Flash-mode Button doesn't work.		SFME	W14 (Brown) W16 (Blue)
Program-Reset Button doesn't work.		SPGM	W13 (Gray) W14 (Brown)
Command Switch doesn't work.		SPT	W12 (Black) W15 (Green)

■HELP display appears.

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
HELP appears at battery installation.	(FPC-A) R17,C26		CN-FC (1)(5)(10) CN-O (1)-(9)
HELP appears at lens reset.			CN-O (3)
HELP appears at S1 on.	(FPC-A) C27,C29,R22,R23		CN-FC (12) CN-B (2)(4)(5)(6)(9)(10)
HELP appears after shutter release.	(FPC-A) C25,R4,R16,R19,R20	S1P	CN-F (4)(6)(7)
After shutter release, mirror goes up and down several times, then HELP appears.		S1OAD	CN-M (1)(2)(3) CN-F (2)(3)(5)
HELP appears at S2 on.	(FPC-A) R25		
Aperture is always set to stop-down position, and HELP appears.	(FPC-A) C10	S1P	CN-F (4)

■Others

Symptom	Cause		
	Element	Switch	Connector (CN) Lead wire
Self-Timer lamp doesn't light.	(FPC-A) R18		
Missing segments in Data Panels			CN-K (1)-(26)
Mis-readout of DX-coding	(FPC-A) R11,R12		CN-D (7)-(11)
No data imprinting			CN-M (4)(5)
Data imprinting position doesn't change between panorama/normal.			CN-D (1)(2)

■Electrical elements on FPC-A

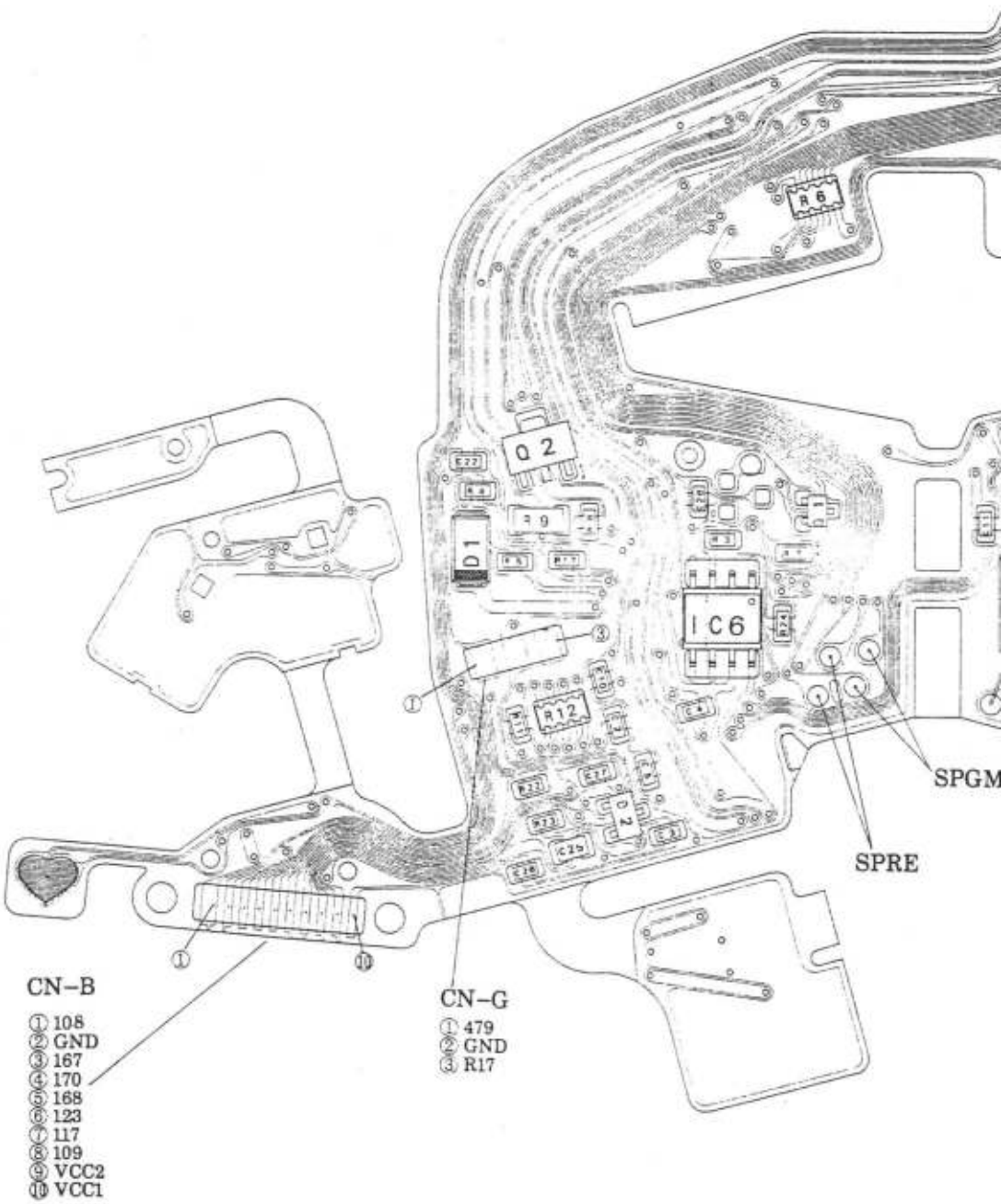
FPC-A

Elements	Position
C2	D-3
C3	D-3
C4	D-3
C5	D-3
C6	D-5
C7	C-5
C8	D-5
C9	D-5
C10	D-3
C11	C-4
C12	C-4
C13	C-4
C14	C-5
C15	C-4
C18	E-7
C19	E-7
C22	C-2
C23	D-8

Elements	Position
C24	D-7
C25	D-3
C26	D-2
C27	D-3
C28	C-3
D1	C-2
D2	D-3
D3	D-8
X1	D-5
X2	D-4
Q1	C-3
Q2	C-2
Q3	D-7
Q4	D-7
R1	D-4
R2	D-4
R3	C-3
R4	C-2

Elements	Position
R5	C-2
R6	B-3
R7	C-3
R8	C-3
R9	C-2
R10	E-7
R12	D-2
R16	D-7
R17	C-3
R18	E-6
R19	D-7
R20	D-5
R21	C-5
R22	D-2
R22	D-2
R23	D-2
R24	D-3
R25	D-7

FPC-A SET
(ELECTRIC ELEMENT SIDE)



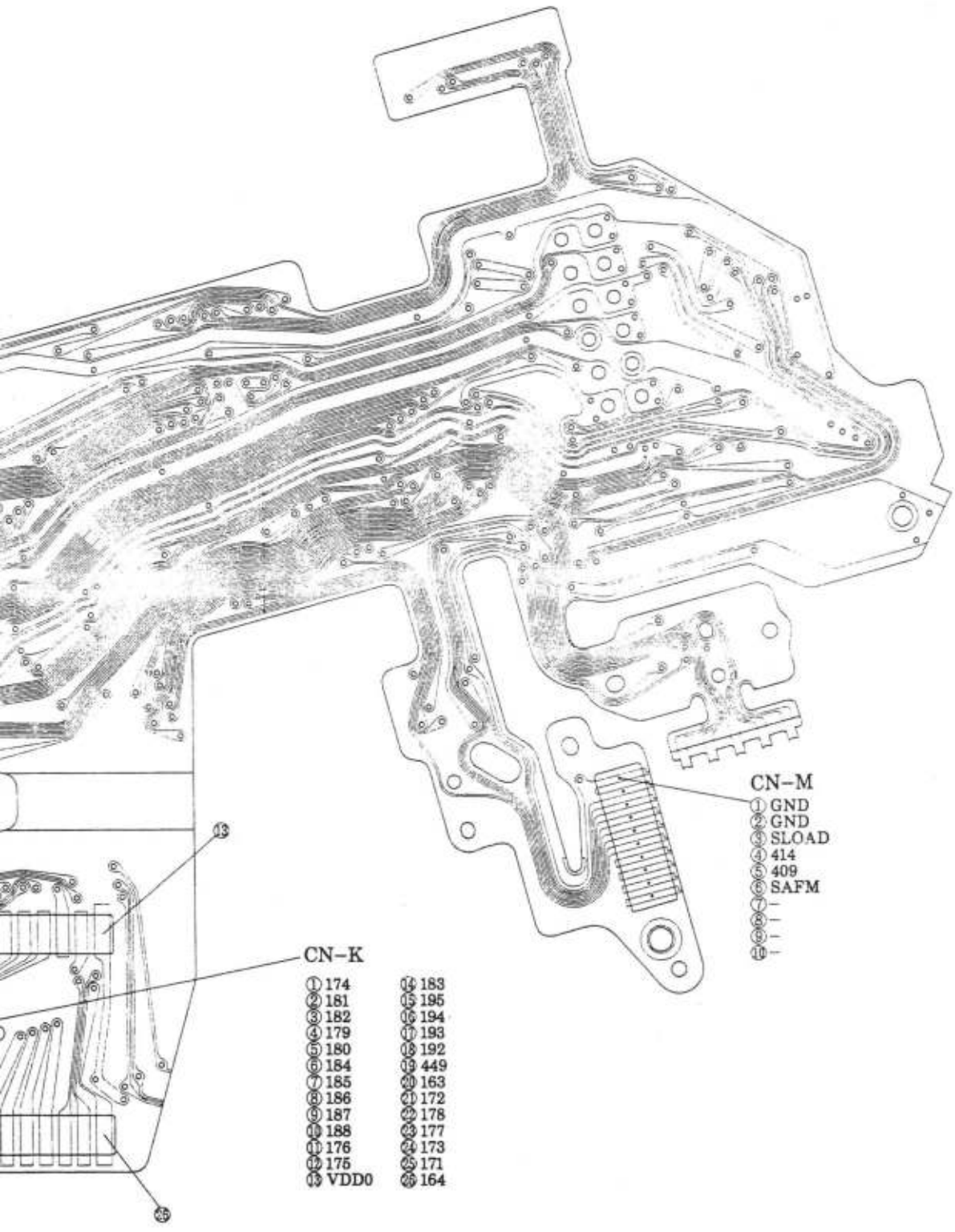
CN-B

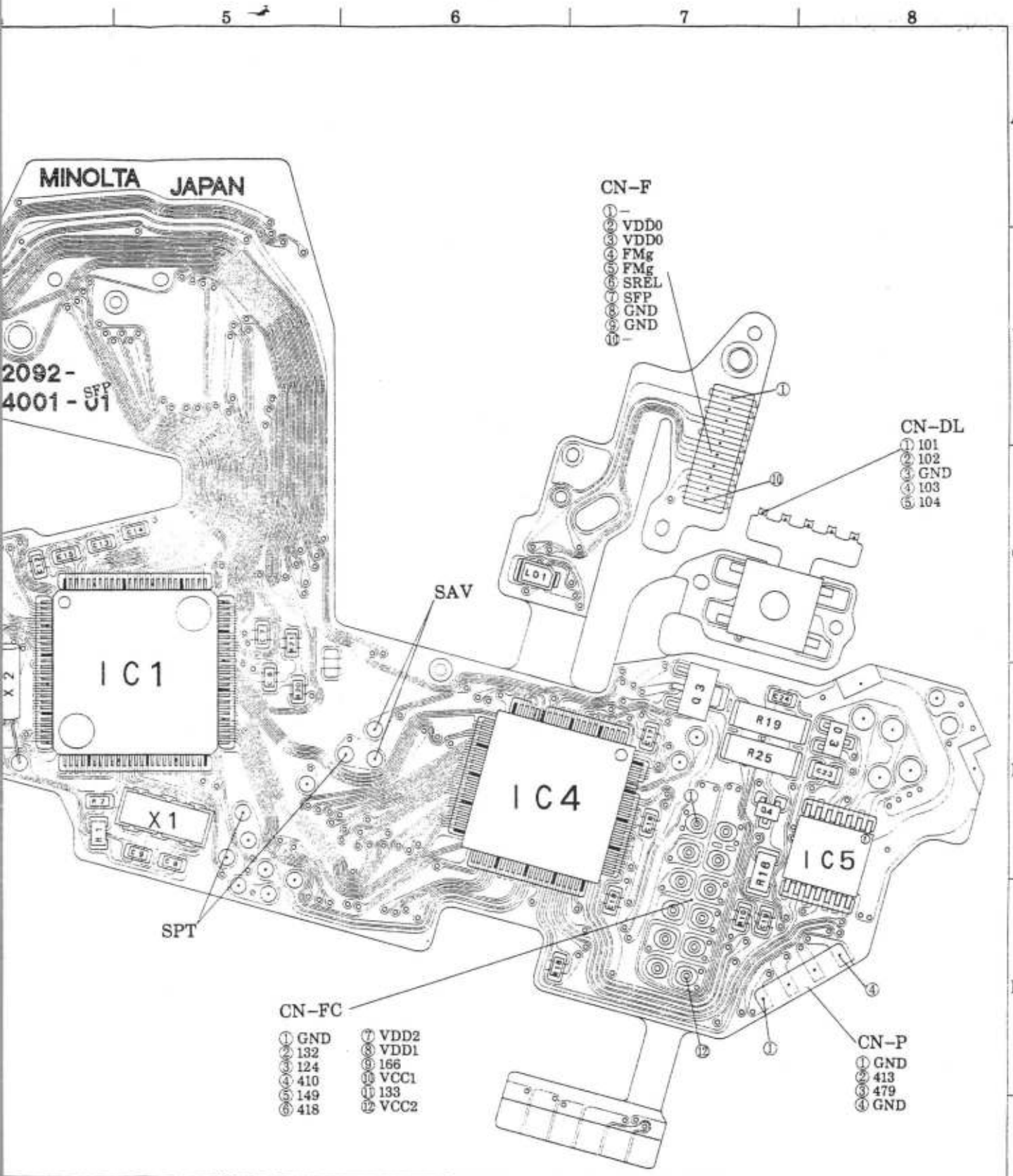
① 108
② GND
③ 167
④ 170
⑤ 168
⑥ 123
⑦ 117
⑧ 109
⑨ VCC2
⑩ VCC1

CN-G

① 479
② GND
③ R17

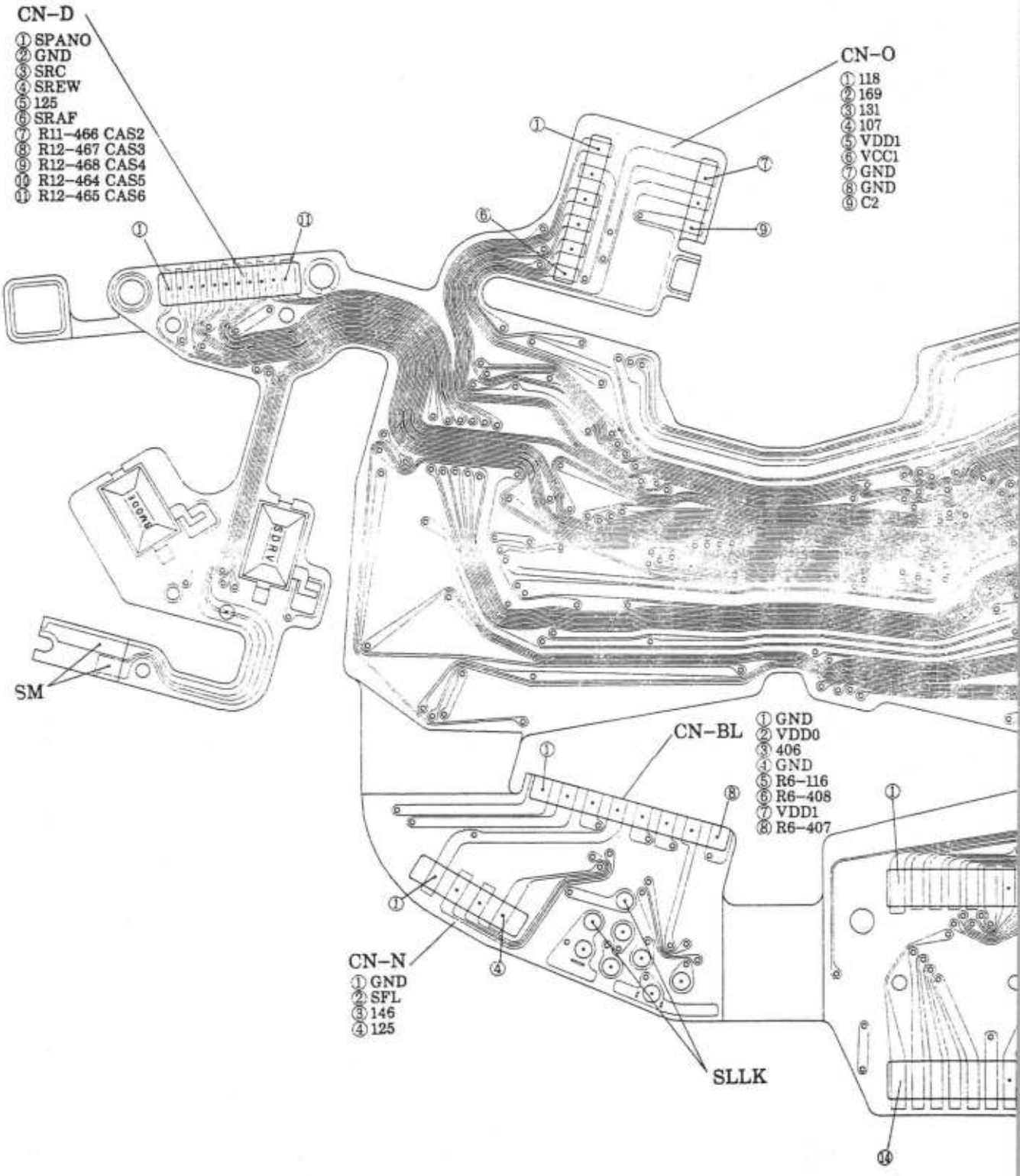
コネクター
例）1


CN-M
① GND
② GND
③ SLOAD
④ 414
⑤ 409
⑥ SAFM
⑦ –
⑧ –
⑨ –
⑩ –
CN-K
① 174
② 181
③ 182
④ 179
⑤ 180
⑥ 184
⑦ 185
⑧ 186
⑨ 187
⑩ 188
⑪ 176
⑫ 175
⑬ VDD0
⑭ 183
⑮ 195
⑯ 194
⑰ 193
⑱ 192
⑲ 449
⑳ 163
㉑ 172
㉒ 178
㉓ 177
㉔ 173
㉕ 171
㉖ 164
13
26

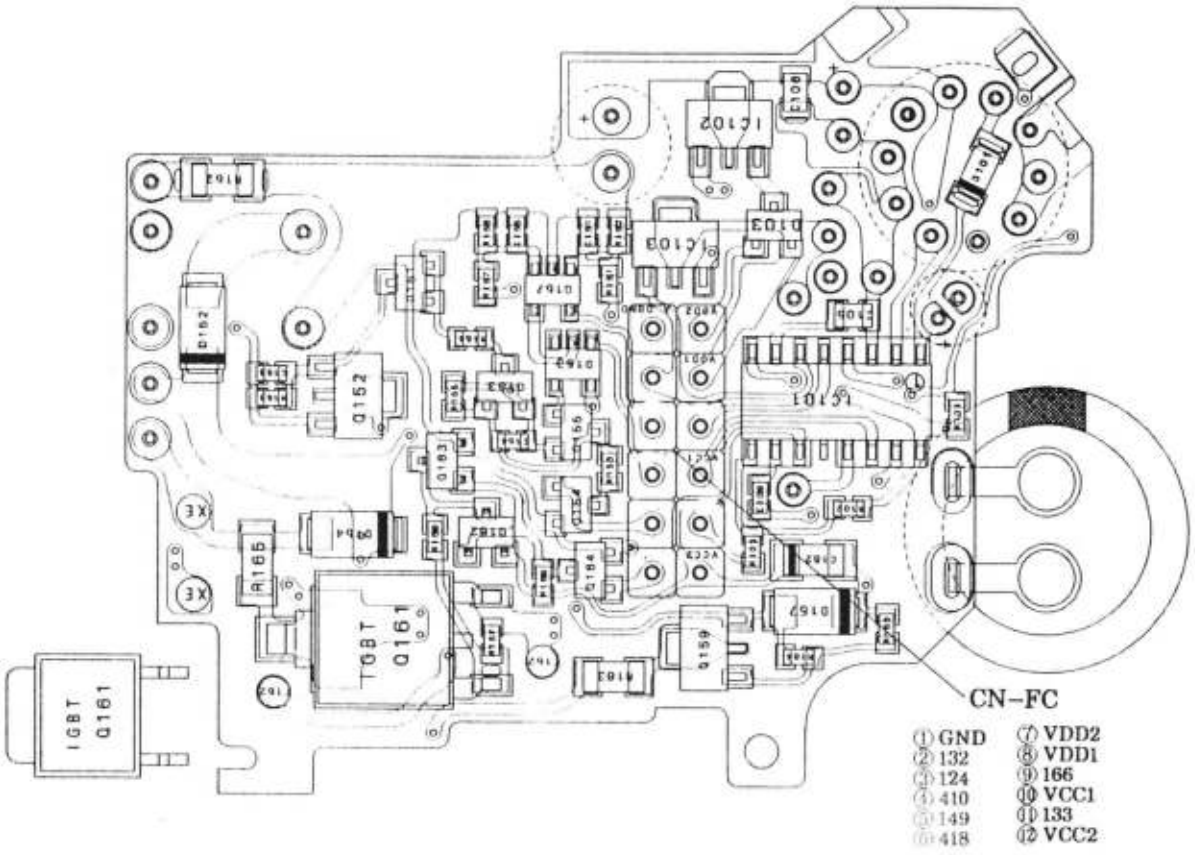


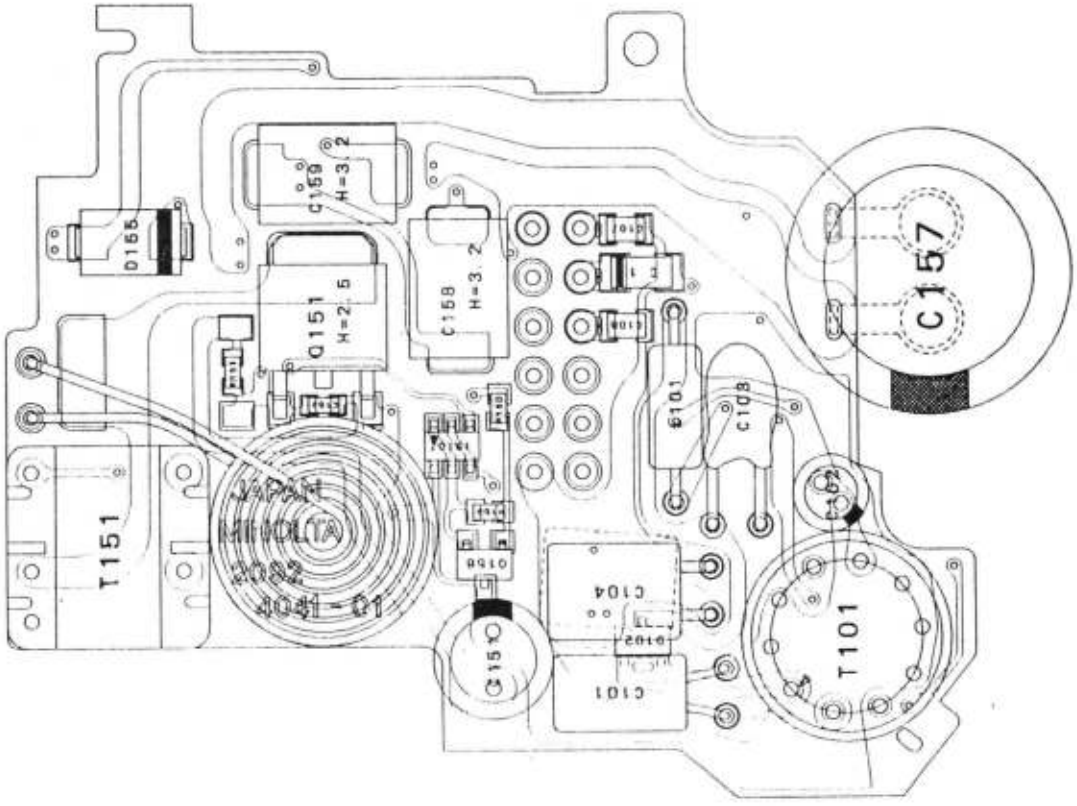
一部(CN)の3桁の数字は、ICの端子番号を表しています 23 IC-1 の 23 番端子 └端子 NO. └IC NO.	The numbers of three figures represent the terminal No. of IC. EX) (1 23) Terminal 23 of IC-1 Terminal No. IC No.

FPC-A SET
NO COMPONENT SIDE



FLASH CONVERTER PCB SET





Check List

1.This CHECK LIST describes the quality of operation warranted to general users. When users inquire about quality or request inspection, refer to this CHECK LIST.
Use this list also when checking operation after repair.

2. When using this list during shipping or receiving inspection, judge the quality according to purpose of the inspection, not by directly referring to this level.

3. For individual taste or special usage, some users may not be satisfied with this level of quality and will request a different one.
In such cases, adjust the level as requested by them as much as possible.

4. Unless otherwise mentioned, use standard lens (2550–100) or master lens (2072–0001–75) for the following inspections.

Initial setting

At battery installation

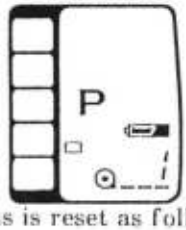
- By installing a battery with Main Switch turned on, camera is reset as follows:
  Exposure mode: P
  Exposure compensation:±0
  Drive–mode: single
  Focus mode: auto–focus
  Battery condition indicator: appears and remains for 3 sec.
- By installing a battery with Main Switch turned on, lens is reset as follows:
  AF lens: set to a specific focus position after ∞ reset.
  xi–series lens: set to a specific focus position after zoom wide–end reset.

At Main Switch slid to ON

- By sliding Main Switch to on, the last setting before Main Switch was turned off is displayed in Body Data Panel.
- Battery condition indicator appears and disappears 3 sec. after.

Without film

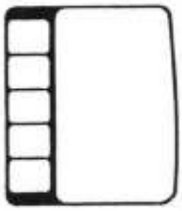
With film



- By sliding Main Switch to on, lens is reset as follows:
  AF lens: set to a specific focus position after ∞ reset.
  xi–series lens: set to a specific focus position after zoom wide–end reset.

At main Switch slid to OFF

- By sliding Main Switch to off, all displays in Body Data Panel disappear.



- By sliding Main Switch to off, lens is set as follows:
  AF lens: retracts to its ∞ end.
  xi–series lens: retracts to its shortest position.

Settings & Displays

Exposure mode selection
- Turning Control Dial while pressing and holding Mode Button will change displays as follows:
- Command Switch is set to exposure mode selection " $_{A}^{S}{}_{M}$ ":

  P↔ A↔ S↔ M
- Command Switch is set to subject program selection " ":

Program reset
- By pressing Program–Reset Button, displays in data panels restore to initial settings as follows:

  Exposure mode: P
  Exposure compensation:±0
  Drive–mode: Single
  Focus mode: Auto
  Wireless flash: canceled
  Self–timer: canceled

Drive–mode
- While pressing and holding Drive–mode/Self–timer Button, turning Control Dial will change displays as follows:

Single–drive↔ Self–timer↔ Continuous–drive

Exposure compensation
- While pressing and holding Exposure–Compensation Button, turning Control Dial will set the compensation value in 1/2–stop increments from □3.0EV to ⊡ 3.0 EV.

Flash mode
- By each press of Flash–Mode Button, Red Eye Reduction Indicator appears and disappears alternately.

  Normal flash↔ Red–Eye–Reduction flash " ◉ "
- When a dedicated flash unit is attached, by pressing the Flash–Mode Button, "WL" appears in Body Data Panel and the camera is set to wireless flash mode.

Focus mode
- Pressing Focus Mode Button changes focus mode to auto focus or manual focus.

  At manual focus: Display as "M.FOCUS" appears in Body Data Panel.
  At auto focus: The "M.FOCUS" disappears.

  Lens is reset to ∞ then to a specific position, or reset to wide–end then to a specific position (xi–series lens)

Operation

<Exposure mode>

P mode
- Shutter speed and aperture settings are automatically set.
- If required exposure settings are beyond camera's control range, " " and shutter speed display blink.

A mode
- Turning Control Dial changes aperture display in both Body and Viewfinder Data Panels in 1/2–stop increments.
- Shutter speed is automatically set.
- If required exposure settings are beyond camera's control range, shutter speed display blinks in both Body and Viewfinder Data Panels.

S mode
- Turning Control Dial changes shutter speed display in both Body and Viewfinder Data Panels in 1/2–stop increments.
- Aperture is automatically set.
- If required exposure settings are beyond camera's control range, aperture display blinks in both Body and Viewfinder Data Panels.

M mode
- Turning Control Dial changes shutter speed display in both Body and Viewfinder Data Panels.
- Turning Control Dial while pressing and holding Aperture Button changes aperture display in both Body and Viewfinder Data Panels.
- One of the following Exposure–Adjustment Indicator appears in Viewfinder Data Panel.
  Over exposure:
  Optimum exposure:
  Under exposure:

<Drive–mode>

Single–drive
- While pressing and holding Shutter–Release Button, shutter runs only for one time.

Continuous drive
- In manual focus mode, while pressing and holding Shutter–Release Button, shutter runs continuously (1 frm/sec.).
- In AF mode, while pressing and holding Shutter–Release Button, shutter runs continuously, but only after focus is confirmed.

Self–timer
- By pressing Shutter–Release Button after Self–timer mode is set, Self–timer Indicator and Self–timer Lamp start blinking in 2Hz.
- Shutter is released 10 sec. after.

<Focus mode>

Auto focus

- By pressing Shutter-Release Button partway down (S1 on), AF system starts operating and one of the following focus signals appears in Viewfinder Data Panel.
  - ((●)) light: Focus is confirmed in continuous AF mode.
  - (( )) light: Focus cannot be confirmed.
  - ● blinking: Focus cannot be confirmed (low contrast)
  - ((●)) →● light: Focus and exposure are locked.
- AF illuminator;

  With built-in flash lifted and AF illuminator is set, the built-in flash fires in low-light and low-contrast to aid focus.

  ※Sliding Main Switch to on while pressing and holding Flash-Mode Button sets or cancels AF illuminator, and one of the following displays appears in Body Data Panel until you release the button.

  AF illuminator cancelled: "oFF AF"

  AF illuminator set: "on AL"

Manual focus

- By pressing Shutter-Release Button partway down, one of the following focus signals appears in Viewfinder Data Panel.
  - ● light: Focus is confirmed.

    Nothing appears: Focus cannot be confirmed.
  - ● blinking: Focus cannot be confirmed (low-contrast).
- AF illuminator doesn't light.

<Flash mode>

Normal & Red-Eye-Reduction mode (With flash raised or dedicated flash attached and turned on)

- When flash charge is completed, " ϟ " appears in Viewfinder Data Panel.
- When flash is fired and controlled correctly, " ϟ " blinks by 2Hz.
- In P mode, flash automatically fires if necessary. And flash always fires by a Shutter-Release while pressing and holding Flash-Control Button.
- In A, S, and M mode, flash always fires.

Wireless flash mode

- In wireless flash mode, pressing Flash-Mode Button will make a test firing.

	Normal, Red-Eye-Reduction mode		Wireless flash mode	
Exposure mode	Shutter speed	Aperture	Shutter speed	Aperture
P	Automatically set			
A	1/90 or 1/60	Manually set	1/45	Manually set
S	Automatically set			
M	Set to 1/90 or slower	Manually set	Set to 1/45 or slower	Manually set

Film transport

Initial load
- When initial load is completed, " ⊙_1 " appears in Body Data Panel.
- When initial load is failed, " ⊙_0 " appears and " ◉ " blinks in Body Data Panel.

Rewind
- During film rewind, number in Frame Counter decreases accordingly.
- When film rewind is completed, " ⊙ 0 " appears and " _0 " blinks in Body Data Panel.
- After film rewind, tip of film is stored in film cartridge.

Film transport time
- From rewind start to completion: approx. 17 sec.
  (Film: KODAK Gold 100, 24Exp., Voltage: 5.8V ;Using power supply adapter)

Standards

Manual shutter speed
- Use Shutter Tester MODEL S-2201 or S-2101.

Shutter speed	Standard (ms)	Allowable range (ms)	Difference	Uneven exposure
1/2000	0.488	0.311–0.766	±0.65EV	Difference between max. and min. of three values (Range –A, –B, –C) within±0.6EV Difference between range –A & –B, range –B & –C ±0.3EV
1/1000	0.977	0.667–1.430	±0.55EV	
1/500	1.95	1.58–2.40	±0.3EV	
1/250	3.91	3.18–4.81		
1/125	7.81	6.34–9.62		
1/90	11.1	9.02–13.7		
1/60	15.6	12.7–19.2		
1/30	31.3	29.2–33.5	±0.1EV	
1/15	62.5	58.3–67.0		
1/8	125	117–134		
1/4	250	233–268		
1/2	500	467–536		

X-sync. delay time

Shutter speed	Measured item	Allowable range
1/90	X-contact delay time	0.4 to 0.9ms
	From X-contact on to 2nd curtain appearance	2.4ms or more

AE level

Use standard lens (2550-100/50mm,f/1.7), ISO100 film, and EE tester (K value 1.3)

Exposure mode	Luminance	Shutter speed	Aperture	Allowable range
P	EV15 EV12 EV10 EV6 EV4	–	–	within 0±1.0EV
A	EV15 EV10 EV10 EV10 EV6	–	F5.6 F1.7 F5.6 F22 F5.6	
S	EV15 EV10 EV10 EV10 EV6	1/1000 1/250 1/30 1/8 1	–	

Flash level

• Check flash level with ISO100 film.
Standard: F5.6±0.5EV
※ See P. 25 of Repair Guide.

Current leak

Item	Allowable range
During Main Switch off	50μA or less
During Main Switch on	50μA or less

Current consumption

• Use 5.8V, 2CR5–type power supply adapter.

Item	Allowable range
At Shutter–Release	80mA or less
At film advance	700mA or less
At film rewind	700mA or less

B.C. lock voltage

• Use 2CR5 type power supply adapter for B.C. adjustment.
B.C. lock operates at 4.75V or below.

Body back

• Standard: 44.710±0.015mm